PB89-221436

Response to Comments: Background Document for the Second Third Land Disposal Restrictions Proposed Rule: Policy Related Comments

ICF Technology, Inc., Fairfax, VA

Prepared for:

Environmental Protection Agency, Washington, DC

8 Jun 89

U.S. Department of Commerce
National Technical Information Service
NTIS

EPA/530-SW-89-048C

RESPONSE TO COMMENTS BACKGROUND DOCUMENT FOR THE SECOND THIRD LAND DISPOSAL RESTRICTIONS PROPOSED RULE

January 11, 1989 (54 FR 1056)

Policy Related Comments

June 8, 1989

Prepared for:

Land Disposal Restrictions Branch
Characterization and Assessment Division
Office of Solid Waste
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

9300 Lee Highway
Fairfax, Virginia
22031-1207

ICF INCORPORATED

50272-101

REPORT DOCUMENTATION PAGE

1. REPORT NO.
EPA/530-SW-89-048C

2.

3. Recipient's Accession No.
PB89-221436

C

4. Title and Subtitle
RESPONSE TO COMMENTS BACKGROUND DOCUMENT FOR THE SECOND THIRD LAND DISPOSAL RESTRICTIONS PROPOSED RULE (POLICY RELATED COMMENTS)

5. Report Date
JUNE 8, 1989

6.

7. Author(s)
ICF/OSW

8. Performing Organization Rept. No

9. Performing Organization Name and Address

ICF INCORPORATED
9300 LEE HIGHWAY
FAIRFAX, VIRGINIA 22031-1207

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
U.S. EPA
OFFICE OF SOLID WASTE
401 M STREET, SW
WASHINGTON, DC 20460

13. Type of Report & Period Covered
RESPONSE TO COMMENTS 6/89

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

The Agency reqeusted public comments on the proposed rule to prohibit land disposal of the second one-third of the schedule of restricted hazardous wastes, known as the Second Third. The regulated community, enviornmental organizations, trade associates, State and Federal agencies, and concerned citizens submitted over 90 written comments on the proposed rule. EPA developed three volumes of the comment response document: 048D addresses comments on waste-specific treatment standards; 048E addresses waste-specific capacity concerns; and ~~Vol. 3~~ 048C addresses comments on broad policy issues. This document (048C) presents a summary of, and response to, selected comments received by the EPA Docket clerk up to (and after) the end of the public comments period on 2/27/89.

17. Document Analysis a. Descriptors

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement
RELEASE UNLIMITED

19. Security Class (This Report)
UNCLASSIFIED

20. Security Class (This Page)
UNCLASSIFIED

21. No. of Pages
0

22. Price
0

(See ANSI-Z39.18)

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL INFORMATION SERVICE
SPRINGFIELD, VA. 22161

RESPONSE TO COMMENTS BACKGROUND DOCUMENT FOR THE SECOND THIRD LAND DISPOSAL RESTRICTIONS PROPOSED RULE
January 11, 1989 (54 FR 1056)

Policy Related Comments

June 8, 1989

Prepared for:

Land Disposal Restrictions Branch
Characterization and Assessment Division
Office of Solid Waste
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Prepared by:

ICF Incorporated
9300 Lee Highway
Fairfax, VA 22031-1207

TABLE OF CONTENTS

1. APPROACH AND ORGANIZATION 1

2. TREATMENT STANDARD DEVELOPMENT 5

3. TREATMENT STANDARDS EXPRESSED AS SPECIFIED TECHNOLOGIES VERSUS CONCENTRATIONS IN THE TREATED WASTE 11

4. PROMULGATING STANDARDS FOR THIRD THIRD WASTES IN SECOND THIRD 15

5. VARIANCES FROM TREATMENT STANDARDS 20

    5.1 Soil and Debris Capacity Variance 20

    5.2 Treatability Variances 27

6. NO LAND DISPOSAL TREATMENT STANDARD 31

    6.1 General Comments 31

    6.2 The No Land Disposal Treatment Standard is Unlawful 37

    6.3 No Land Disposal Based on Recycling 38

    6.4 Sham Recycling 41

    6.5 No Land Disposal Based on No Ash 42

    6.6 No Land Disposal Based on No Generation 46

    6.7 "Derived-From"/Mixture Rules 48

    6.8 Treatability Variance Petitions 54

    6.9 Difficulties with Disposal Stemming from the No Land Disposal Standard 56

    6.10 No Land Disposal Standards for P and U Wastes . . 57

7. MANAGEMENT OF "SOFT HAMMER" WASTES 58

8. "DERIVED-FROM" RULE/WASTES 65

    8.1 Comments Specific to Leachate Issues 65

    8.2 Separate Treatment Standards and Schedule for "Derived-From" Wastes 68

    8.3 Application of the "Derived-From" Rule 72

8.4 Implications of Treatment Standards for "Derived-From" Wastes 77

8.5 Application of "Derived-From" Rule to Contaminated Ground Water 84

9. RETROACTIVITY 86

10. CAPACITY 87

11. TESTING 91

12. RECORD-KEEPING 95

13. STORAGE ISSUES 96

14. REQUESTS FOR EXTENSION OF COMMENT PERIOD 98

15. LAB PACKS 101

15.1 General 101

15.2 Treatment Standards 104

15.3 Record-keeping 109

16. RELATIONSHIP TO PCB REQUIREMENTS 111

17. RELATIONSHIP TO SPECIAL WASTES 113

18. CONTAMINATED EQUIPMENT AND DEBRIS 116

19. CONTAMINATED SOIL AND DEBRIS 119

20. UNDERGROUND INJECTION CONTROL 123

20.1 Setting Effective Dates Prior to May 8, 1990 . . . 123

20.2 Capacity Variance "Anchor" Dates 125

20.3 Agency Flexibility to Terminate Variances when Adequate Alternative Treatment Capacity Becomes Available 126

20.4 Comments on Waste-Specific Effective Dates 127

20.5 Treatment Standards as Applicable to Underground Injected Wastes 129

20.6 Industry's Ability to Develop Treatment Capacity . 130

20.7 Capacity 131

20.8 The Availability of Transportation 132

21. APPLICABILITY OF "HARD HAMMER" TO CHARACTERISTIC WASTES 134

22. OTHER ISSUES 135

23. INDICES 149

23.1 List of Commenters -- by Commenter Number 149

23.2 List of Commenters -- Alphabetically 154

23.3 Commenters by Issue Areas 159

23.4 Issue Areas by Commenters (in alphabetical order) . 174

1. APPROACH AND ORGANIZATION

On January 11, 1989, the Environmental Protection Agency (EPA, the Agency) proposed a rule to prohibit the land disposal of the second one-third of the schedule of restricted hazardous wastes, known as the Second Third (see 54 Federal Register 1056). The proposal outlined treatment standards and effective dates of prohibition for these wastes as well as for some First Third wastes, Third Third wastes, and newly listed wastes. The proposed rule was issued pursuant to the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA).

The Agency requested public comments on the proposal. The regulated community, environmental organizations, trade associations, State and Federal agencies, and concerned citizens submitted over 90 written comments on the proposed rule. EPA developed three volumes of the comment response document: Volume 1 addresses comments on waste-specific treatment standards, Volume 2 addresses waste-specific capacity concerns, and Volume 3 addresses comments on broad policy issues. This document (Volume 3 of 3) presents a summary of, and responses to, selected comments received by the EPA docket clerk up to (and after) the end of the public comment period on February 27, 1989.

APPROACH

The preparation of this document involved several steps. First, major issues in the proposed rule were identified. Second, each comment letter was read and categorized into issues corresponding to those of the proposed rule. Third, all comments addressing each issue were summarized, and like comments were grouped together. Finally, Agency responses to each issue were developed.

Obviously, many commenters expressed the same or similar concerns. In summarizing the comments, it was necessary to generalize. Thus, the summary of comments in this document does not attempt to replace completely the actual written comments. The actual comments are available in the RCRA LDR-10 docket at Agency Headquarters.

ORGANIZATION

The comment summaries and responses are organized into 23 chapters, each corresponding to an issue identified in the proposed rule. Comments on EPA's approach to developing treatment standards for Second Third scheduled wastes are presented in Chapter 2. The issue of setting treatment standards as specified technologies in contrast to concentration-based standards for Second Third wastes is addressed in Chapter 3. In the Second Third rule, the Agency has promulgated treatment standards for some wastes that were originally scheduled for the Third Third rule. Comments related to promulgating treatment standards for Third Third wastes in the Second Third are found in Chapter 4. Chapter 5 summarizes comments received on the Agency's proposed variances from the treatment standards. "No Land Disposal" was proposed as a treatment standard for certain wastes that the Agency determined are no longer generated or land disposed or are completely recycled. Comments on this issue are summarized in Chapter 6.

Comments regarding management of wastes subject to the statutory "soft hammer" provisions are discussed in Chapter 7. Chapter 8 presents comments on the Agency's requirement that residues derived from the treatment of listed wastes are subject to the same treatment standards as the waste itself. An issue related to the "derived-from" rule is whether the Agency legally can set standards for previously treated or disposed of wastes. This issue is discussed in Chapter 9. Chapter 10 summarizes comments on treatment capacity limitations for Second Third wastes. Certain general interpretive questions relating to testing, record-keeping, and storage are addressed in Chapters 11 through 13. EPA notes, however, that it did not open underlying rules for comment and that responses are not intended to revisit the underlying regulations.

Chapter 14 summarizes several comments requesting the Agency to extend the comment period to the Second Third rule. Because of statutory time limitations, the Agency was unable to grant this request (although EPA considered all late-filed comments). Several commenters expressed concern over the application of testing and disposal requirements for small quantity laboratory wastes, known as lab packs. These comments are discussed in Chapter 15. The role of the Second Third rule in relation to certain other Agency regulations is addressed in Chapters 16 and 17. The Agency is granting national capacity variances for certain contaminated soil and debris. Comments on these issues are summarized in Chapters 18 and 19. The applicability of the Second Third rule to underground injection control wells is discussed in Chapter 20. Chapter 21 notes that EPA has determined not to take a final position on the issue of including characteristic hazardous wastes within the scope of the statutory hard hammer until the Third Third rule. Those comments that could not be classified into an issue category are summarized in Chapter 22. Finally, Chapter 23 contains several indices to the comment response background document, including a list of the commenters catalogued according to the EPA docket number, and a list of the major issues from the proposed rule along with the names and docket numbers of the commenters who referred to each issue.

2. TREATMENT STANDARD DEVELOPMENT

Summary of Comments

RSR Corporation (016)[1] expressed concern about the compatibility of RCRA Best Demonstrated Available Technology (BDAT) standards and standards developed under the Clean Water Act (CWA) as they apply to secondary lead manufacturers. RSR urged the Agency to state clearly that all BDAT standards developed for wastewater treatment sludge and other residues shall be consistent with the wastewater Best Practical Treatment (BPT), Best Available Technology (BAT), and pretreatment standards for existing sources (PSES) treatment processes used to develop Clean Water Act standards.

Agency Response

The CWA does not establish treatment standards for wastewater treatment sludges. EPA, however, has investigated the technology basis for the various CWA limitations and standards and has attempted to synchronize the workings of the programs where it is possible to do so (see, for example, treatment standards for F006-009 and F011-012, where EPA has determined that the cyanide standard can be met using technologies installed to comply with CWA limitations and standards).

---

[1] The parenthetic reference corresponds to the RCRA docket number assigned to the comment. For example, RSR Corporation (016) refers to the comment submitted by RSR Corporation stamped as RCRA Docket No. 00016. The letter "L" before the number signifies a late comment (i.e., a comment received after the close of the comment period).

Summary of Comments

The American Petroleum Institute (API) (042) objected to the requirement that leachates and other residues from the treatment of listed wastes must meet the BDAT treatment standards for each of the original wastes. API questions EPA's apparent assumption that treatment residues contain lower concentrations of each listed waste than the original wastes, and that the residues can thus be treated to meet the standards. API questions whether the treatment standards are "demonstrated and available" technology with respect to multi-source residues.

Agency Response

The "derived-from" rule states that solid waste generated from the treatment, storage, or disposal of hazardous waste is also a hazardous waste (40 CFR 261.3(c)(2)). However, EPA is presently investigating whether multi-source leachate, and residues from its treatment, should have a separate treatment standard. The Agency has rescheduled multi-source leachate (February 27, 1989, at 54 Federal Register 8264) that is derived from hazardous wastes to the Third Third of the schedule. EPA's

EPA's position as to other "derived-from" wastes is unchanged from the First Third rule, and is not addressed here except to note that no commenter has yet supplied data showing that particular classes of mixtures are unable to meet the various treatment standards that apply to the wastes they contain. For more on the Agency's position on leachate issues, including multi-source leachate, see Chapter 8 of this document which addresses "derived-from" comments.

Summary of Comments

API (042), the Chemical Manufacturers Association (CMA) (034), and Ross Environmental Services (L005) urged EPA to consider risk to human health when setting treatment standards. CMA asserted that setting standards that compel treatment beyond human health thresholds established elsewhere in the RCRA program is unlawful. Ross Environmental Services stated that health effects should be the upper-most limit for establishing treatment standards. Best Demonstrated and Available Technology should be required when BDAT levels of treatment do not meet the health-based standard.

Agency Response

In the Agency's response to comments on the solvents and dioxins rule (Comment Response Background Document for the Land

Disposal Restrictions, Volume One, November 7, 1986), EPA stated that the use of BDAT in setting treatment standards coincides more closely with Congressional intent. The legislative history provides that "the requisite levels or methods of treatment established by the Agency should be the best that has been demonstrated to be achievable" and that "the intent here is to require utilization of available technology (in lieu of continued land disposal) without prior treatment" (130 Congressional Record 9178; daily edition, July 25, 1984; statement of Senator Chafee). Therefore, the Agency is acting within its statutory authority in setting treatment standards based on BDAT. This issue has been litigated as part of the challenge to the solvents/dioxin rule and is not being reopened here.

Summary of Comments

API (042) questioned the Agency's claim that it is unnecessary to determine separate treatment levels for every waste generated in a treatment train because BDAT levels are based on the first waste generated. The commenter noted that EPA has stated that since these first wastes are derived from the most concentrated form of the hazardous substance, the BDAT standards should be achievable at any subsequent step in the treatment process. However, API argued that since EPA has not specified a specific treatment train as part of its BDAT standards, the Agency cannot state that the waste on which the standard is based will always be the most concentrated waste generated by treatment of the listed waste.

Agency Response

This interpretive issue again is part of the First Third rule and is not being reopened here. In any case, this theoretical point has no particular general significance; the real issue is achievability of particular treatment standards. In this rule, commenters can challenge whether they have residues capable of meeting a particular treatment standard. In fact, no commenter has claimed that they generate residues from treating Second Third wastes in a treatment train where downstream treatment residues cannot meet the treatment standard established on the basis of upstream treatment performance.

Summary of Comments

Ross Environmental Services (L005) commented that treatment standards should be limited to those constituents that make a waste a hazardous waste (i.e., those constituents included in the listing in 40 CFR Part 261, Appendix VII).

Ross further noted that the First Third treatment standards are based on wastewater and nonwastewater residues, while the Second Third treatment standards are based on the original waste.

Ross urged the Agency to clarify whether treatment standards were based on residues or original wastes for each waste code in the Second Third rule.

Agency Response

The Agency believes that it is not restricted to regulating only those constituents for which a waste is listed. To do so could well be illegal, since Appendix VII constituents (the constituents for which a waste is listed) are not all of the hazardous constituents in a waste. To ignore the remaining hazardous constituents could lead to situations where a treatment standard fails to substantially reduce toxicity or mobility. In addition, section 3004(m) of RCRA clearly tells EPA to address all "hazardous constituents." (This issue is addressed further in the preamble to the final rule.)

In response to Ross's second point, the Agency believes that it is clear in the Second Third rule that nonwastewater and wastewater standards are promulgated for each listed waste code, and any waste bearing the code will fall into one of the categories depending on its physical form. A "derived-from" waste would be subject to the nonwastewater standard if it is a nonwastewater and to the wastewater standard if it is a wastewater, as would an original listed waste.

3. TREATMENT STANDARDS EXPRESSED AS SPECIFIED TECHNOLOGIES VERSUS CONCENTRATIONS IN THE TREATED WASTE

Summary of Comments

Dow Chemical (048) urged the Agency to set both technology- and concentration-based performance standards in cases where a RCRA or NPDES-permitted treatment technology is specified as BDAT. Dow asserted that permitting a unit under RCRA or NPDES is equivalent to achieving a land disposal restriction performance standard, and that adoption of both technology- and concentration-based standards would help eliminate double regulation of facilities and would minimize an unnecessary analytical burden on facilities.

Agency Response

This issue also is not properly part of this rulemaking, except insofar as it relates to a particular Second Third standard. EPA's experience in implementing the LDR program has reinforced its view, first expressed in the solvents and dioxins preamble, that wherever possible, the Agency prefers to establish concentration-based performance standards. Concentration-based standards provide the regulated community with maximum flexibility to develop and implement compliance strategies. Any technology not otherwise prohibited may be used by facilities to meet the concentration standard. Where treatment standards are expressed as a technology, the waste must be treated using the specified technology prior to land disposal. Thus, technology-based standards limit a facility's treatment options more than concentration-based standards.

The Agency does not believe that the analytical burden on facilities would be eased by specifying both technology- and concentration-based standards. Rather, the Agency is concerned that establishing two standards for each waste code could create unnecessary confusion among the regulated community as to which standard is applicable.

Summary of Comments

Dow Chemical (048) also contended that providing the regulated community with the option of achieving either technology- or concentration-based standards would maintain flexibility for facilities to use innovative technologies.

Agency Response

As previously stated, the Agency does not believe that adoption of both technology- and concentration-based standards for each waste code would provide any more flexibility than concentration-based standards alone. Facilities that generate wastes with specified technologies as treatment standards may petition the Agency for an alternative technology variance (40 CFR 268.42) to use an innovative technology. In order to receive such a variance, the facility must demonstrate that the alternative treatment method can achieve a measure of performance equivalent to that achievable by the method specified by the treatment standard.

Summary of Comments

GSX (044) supported the Agency's statement that compliance with the treatment standards only requires that the treatment level be achieved prior to land disposal, and requested that this principle be expanded to include specified technologies as treatment standards. GSX stated that treatment standards as specified technologies limit the choice of treatment methods available. The commenter requested that, where the Agency sets a treatment standard as a specified technology, a list of technologies be identified, thereby increasing flexibility in selecting treatment methods, and limiting risk involved in transporting wastes for treatment.

Agency Response

The Agency has set concentration-based performance standards for as many waste codes as possible in order to provide the regulated community with flexibility in choosing treatment options. The Agency agrees that, in general, technology-based standards limit the choice of treatment methods available to regulated facilities. In those cases where the Agency has established technology-based standards, the Agency believes that the specified technology generally is already used by industry. The Agency anticipates that most facilities treating wastes with specified technologies as treatment standards will not have to alter their present treatment methods significantly.

The commenter's point on transportation is quite obscure. It is hard to see any relation between specifying a treatment method as BDAT and a need to transport hazardous waste. If the technology basis is incineration, for example, wastes normally would have to be transported to a commercial incinerator. In this regard, transportation seems less likely with concentration-based standards because of greater likelihood a generator could meet the standards by some means available on-site (assuming not very many generators operate their own on-site incinerators).

4. PROMULGATING STANDARDS FOR THIRD THIRD WASTES IN SECOND THIRD

Summary of Comments

Several commenters (Chemical Manufacturers Association (034, 039), Monsanto (019), Sterling Chemicals (026), and Exxon Chemical Americas (004)) objected to the Agency's proposal to regulate certain Third Third wastes in the Second Third rulemaking. Exxon Chemical Americas, CMA, Monsanto, and Sterling Chemicals stated that facilities have planned capital projects for compliance with the Third Third rule in May 1990 and will be unable to comply with the accelerated schedule.

Agency Response

First, EPA clearly has discretion to reschedule wastes. See Chemical Waste v. EPA, 869 F.2d 1526 n.2 (D.C. Circuit 1989), stating that "the schedule is not irrevocable; EPA has continuing authority to shift particular wastes from one-third of the schedule to another." EPA believes it has reasonably exercised its discretion here because it furthers the environmental goal of promoting hazardous waste treatment and less reliance on hazardous waste land disposal. These goals should be achieved as soon as possible and need not be forestalled until the latest possible date. This point is made clear by section 3004(g)(5)'s reference to "not later than" with respect to establishing prohibitions.

If facilities find that compliance with the land disposal restrictions is difficult for Third Third waste included in the Second Third because of treatment capacity limitations, case-by-case extensions (under 40 CFR 268.5) are available. Applicants seeking case-by-case extensions to the effective date of any prohibition must make several demonstrations, including evidence of good-faith efforts to locate available capacity, a binding contractual commitment to provide alternative capacity, and evidence that such capacity cannot reasonably be made available by the effective date.

Summary of Comments

CMA (039) stated that companies have been denied an opportunity to provide complete comments on the proposed treatment standards for the rescheduled Third Third wastes by the short comment period.

Agency Response

EPA published the proposed rule on January 11, 1989, and requested that comments be submitted on or before February 27, 1989 (a six-week period). In addition, EPA considered every late comment (i.e., a comment received after the close of the comment period) submitted on the proposed rule. The Congressionally mandated schedule for promulgating each of the separate land disposal restrictions rules requires that a significant number of regulatory determinations must be made, published for public comment, and issued as final within a tight time schedule. Given these constraints, the Agency was unable to extend the comment period on the proposed Second Third rule.

The Agency also notes that comments provided by the commenter do refer to information contained in the background documents, indicating that time was available for review of the documents and preparation of comments. Further, the Agency notes that Agency personnel were available to provide information to individual companies prior to the Second Third proposal, and did in fact have discussions with industry regarding the following wastes before proposal: K009, K010, K011, K013, and K014.

Summary of Comments

CMA (039) commented that the schedule for promulgating treatment standards for the scheduled wastes was based on the wastes' intrinsic hazard and volume, and that the ranking should not be changed.

Agency Response

EPA is promulgating treatment standards for certain Third Third wastes in the final Second Third rule, even though such wastes were originally scheduled to be regulated by May 8, 1990. The original schedule promulgated on May 26, 1986 (51 Federal Register 19300) is not irrevocable; the Agency retains a continuous authority to shift particular wastes from one third of the schedule to another (see Chemical Waste Management v. EPA (869 F.2d 1526 at n.2)). Thus, the Agency is not precluded from proposing or promulgating treatment standards for any wastes ahead of schedule. As noted above, EPA believes that accelerating treatment standards for these wastes is a reasonable exercise of its discretion.

Summary of Comments

CMA (034, 039), Monsanto (019), and Sterling Chemicals (026) noted that EPA has improperly cited RCRA section 3004(g)(1) by including the words "not later than..." to support promulgating standards for Third Third wastes in the Second Third rule. The commenters stated that this section of RCRA refers only to the dates by which EPA must rank hazardous wastes and that RCRA section 3004(g)(5) uses the "not later than" language to refer to the date by which the Agency must act to prevent the imposition of hammers.

Agency Response

The commenters are correct that section 3004(g)(1) of RCRA uses the language "not later than ..." to refer to the date by which EPA must submit a schedule to Congress for the review of all hazardous wastes and take the action under paragraph (5) of this section with respect to the wastes. However, section 3004(g)(5) does state that "...not later than the date specified in the schedule, the Administrator shall promulgate final regulations prohibiting one or more methods of land disposal of the hazardous wastes listed on the schedule...." Because this section states that the regulations shall be promulgated not later than the specified date, the Agency retains the authority to set standards prior to the date specified in the schedule. Sections 3004(g)(6)(A) and (B) of RCRA refer to the "soft hammer" provisions, and section 3004(g)(6)(C) contains the "hard hammer" provision.

5. VARIANCES FROM TREATMENT STANDARDS

5.1 Soil and Debris Capacity Variance

Summary of Comments

Several commenters (Eastman Kodak (059), SOCMA (020), Reilly Industries (062), and Chemical Manufacturers Association (CMA) (034)) expressed support for EPA's proposed capacity variance for soil and debris contaminated with Second Third wastes for which BDAT is incineration, but requested that EPA broaden the scope of the variance for various reasons. The Agency's response to each of the issues addressed is provided below.

Kodak suggested that EPA expand the scope of the variance to encompass soil and debris contaminated with any Second Third waste because the treatment of such soil and debris may use incineration either alone or as part of the treatment process.

Reilly Industries also requested an expansion of the two-year national capacity variance to include soil and debris contaminated with any listed wastes (F, K, P, or U wastes). Reilly Industries stated that broadening the variance to include all listed wastes will provide the Agency with the time needed to develop appropriate treatment standards for such wastes and for generators and disposers to meet the standards.

Agency Response

EPA is granting a national capacity variance until June 8, 1991, for soil and debris contaminated with Second Third wastes for which BDAT is incineration. The Agency has determined that increases in rotary kiln incineration capacity (the type most appropriate for soil and debris) have been small, and that incineration capacity for soil and debris is still inadequate. The Agency has determined that there is adequate treatment capacity for all other Second Third wastes (except for certain Second Third wastes disposed of by deep well injection, for which capacity variances are also being granted). The commenters have provided no technical basis for expanding the scope of the national capacity variance (i.e., demonstrating lack of treatment capacity where the treatment standard is based on other technologies). The Agency is therefore limiting the national capacity variance to soil and debris contaminated with Second Third wastes for which BDAT is incineration.

Summary of Comments

Three commenters (Eastman Kodak (059), SOCMA (020), and CMA (039)) expressed concern that the proposed capacity variance for soil and debris is limited and will increase the difficulty of finding appropriate treatment for contaminated soil and debris resulting from spill cleanups, RCRA corrective actions, and CERCLA response actions, thereby discouraging voluntary cleanups.

Agency Response

The Agency believes that there is inadequate incineration capacity for soil and debris wastes, and it is therefore granting a capacity variance for all soil and debris contaminated with Second Third wastes for which BDAT is incineration. The Agency has determined by its capacity analysis, however, that there is adequate treatment capacity for all other Second Third wastes. Commenters made no specific demonstrations to the contrary. The Agency does not believe that compliance with the promulgated Second Third treatment standards will be difficult or that voluntary cleanups will be discouraged.

Summary of Comments

Reilly Industries (062) questioned how a generator is to dispose of soil and debris contaminated with wastes where the treatment standard is a specified technology not applicable to soil or debris. Reilly believes the national capacity variance should be extended to all soil and debris wastes.

Agency Response

The only Second Third wastes for which this might be true have a treatment standard based on incineration (toluene diisocyanate (TDI) treatability group). Soil and debris contaminated with these wastes does have a national capacity variance.

In general, if a specified technology is not applicable for a soil or debris contaminated with a Second Third waste, then a generator may petition for a treatability variance. A treatability variance is an alternative treatment standard for a restricted waste that differs from the promulgated treatment standard. Such a variance is not an exemption from the requirements of the land disposal restrictions; instead, it sets an alternative treatment standard that the generator must attain. Petitioners must demonstrate that, because the physical or chemical properties of the waste differ significantly from the waste EPA analyzed in setting the standard, the waste cannot be treated to the standard, or that the technology is not appropriate for the waste.

Summary of Comments

Reilly Industries (062) expressed concern that generators disposing of soil and debris wastes originating from spill cleanups that are not included in the capacity variance will be forced to request variances at considerable time and expense to industry and the Agency. Reilly further stated that the time involved in obtaining a variance may present difficulties because most of the commenter's facilities do not have permitted waste storage units (i.e., the facilities operate as waste generators with less than 90-day storage).

Agency Response

EPA believes that compliance with the land disposal restrictions during review of a site-specific treatability variance is protective of human health and the environment. EPA has streamlined the process of applying for a treatability variance in the First Third Final Rule by amending 40 CFR 268.44 to allow site-specific variances to be granted through non-rulemaking procedures.

Generators that need to store wastes longer than 90 days may apply for facility interim status if their accumulation will exceed the time limits, as long as the storage is necessary to comply with the land disposal restrictions. See 40 CFR 268.50(a)(1).

Summary of Comments

GSX (044) requested that the Agency expand the national capacity variance to include wastes generated by voluntary remedial actions and State-funded remedial actions. The commenter disagreed with the Agency's "double standard" of granting a variance to CERCLA funded or RCRA permitted remedial actions but not to voluntary or State-funded actions.

Agency Response

The national capacity variance is being granted in the Second Third Final Rule to all soil and debris contaminated with Second Third wastes for which BDAT is incineration. The Agency does not believe that it has set a "double standard" in determining treatment capacity and issuing national capacity variances, except with respect to solvents and dioxins and California list wastes, where the statute mandates the distinction (see sections 3004(d)(3) and (e)(3)).

Summary of Comments

CMA (039) pointed out that the two-year capacity variance for contaminated soil and debris for which BDAT is incineration should apply to Third Third wastes included in the Second Third final rule. CMA stated that 40 CFR 268.34 should be revised accordingly.

Agency Response

CMA is correct, and the Agency has made this change in the final rule.

Summary of Comments

Olin Chemicals (061) stated that, according to the Second Third proposal, soil and debris contaminated with First Third wastes for which BDAT is incineration will have a national capacity variance until August 8, 1990, a period of only 14 months. Specifically, waste codes P039, U221, and U223 will be affected. Olin requested that the Agency correct this oversight in the final rule.

Agency Response

The Agency is establishing June 8, 1989 as the effective date of the capacity variance for soil and debris contaminated with 11 First Third wastes whose treatment standards are based on incineration. The effective date of the capacity variance for these wastes is the date treatment standards are promulgated, rather than the date the soft hammer restrictions took effect (i.e., August 8, 1988). RCRA section 3004(h)(2) allows the Administrator to grant a national capacity variance from the statutory prohibition date and to establish a different effective date not to exceed two years after the effective date of the prohibition that would otherwise apply. The Agency believes that the prohibitions and treatment standards promulgated in today's rule are the "prohibition[s] that would otherwise apply" referred to in the statute. Therefore, the capacity variance for these wastes will be for a period of two years, beginning June 8, 1989, and ending June 8, 1991.

5.2 Treatability Variances

Summary of Comments

Ford Motor Company (058) stated that the review period for treatability variances is too long considering the 90-day limit on storing hazardous waste without a RCRA permit. Ford stated that it would have to send its waste to an off-site RCRA incinerator or its wastewater, prior to F019 sludge generation, to off-site treatment.

Agency Response

Generators whose wastes differ significantly, either physically or chemically, from the wastes used for setting treatment standards may petition for a treatability variance. During EPA's review period, generators must comply with the land disposal restrictions. If generators cannot comply with the treatment standards, they must either not generate the waste or store it. Generators may apply for a storage permit, if the storage period will extend past 90 days, and may become eligible for interim status (40 CFR 268.50(a)(1)). Further, this comment is hypothetical given the virtual absence of any track record on treatability variances (since virtually none have been requested). Nor is the Agency promulgating F019 treatment standards.

Summary of Comments

Dow Chemical (048) stated that large, integrated treatment facilities will not be able to meet established treatment standards because these standards are based mainly on treatment units handling single stream, non-varying wastes. Dow expressed concern that it would take two or more years to obtain a treatability variance. The company requested the establishment of a variance or administrative procedure that would allow site-specific LDR compliance programs in the permitting regulations of 40 CFR 270. This would allow the regulated facility to identify appropriate testing, monitoring, and certification requirements within its permit. Dow also requested that generic standards be adopted that would allow a facility to continue established waste treatment during the time the variance petition is being processed.

Agency Response

Generators who produce a waste that cannot meet established treatment standards may petition the Agency for a rulemaking treatability variance. To obtain such a variance, the petitioner must demonstrate why the existing treatment standard cannot be achieved. Such variances establish new treatability groups in the CFR that are effective nationwide. During the time of EPA's review of the petition, generators must still comply with the land disposal restrictions. The Agency has set these treatment standards in order to protect human health and the environment.

EPA is aware, however, of particular problems faced by large integrated facilities, and the Dow Midland facility in particular. To this end, the Agency is investigating the particular circumstances of that facility as part of its effort to characterize multi-source leachate and, if warranted, to develop separate treatment standards for such leachate. Dow is one of the companies participating in this effort.

The preamble to the Second Third rule addresses the commenters' implicit point that the waste code carry-through principle is unsuitable for large integrated facilities. In brief, however, the most important policy considerations underlying the Agency's interpretation are the need to assure that inappropriate mixing is not occurring (i.e. that wastes do not become more difficult to treat as a result of mixing), the related need to assure that listed wastes are indeed being treated to reduce toxicity and mobility of all hazardous constituents, and the virtual impossibility of EPA developing separate treatment standards for every situation where the matrix being treated consists of some combination of prohibited wastes. Given the statutory deadlines, the Agency could not possibly deal with all of these permutations by separate rules. It is thus appropriate for the persons managing the matrix to have the burden of demonstrating to the Agency that their wastes cannot be treated to meet applicable treatment standards, that this inability does not result from improper operation of the treatment technology, and that mixing of wastes has not resulted in a matrix that is more difficult to treat (or at least that any mixing is a necessary part of a legitimate treatment process).

6. NO LAND DISPOSAL TREATMENT STANDARD

6.1 General Comments

Summary of Comments

Many commenters (Hazardous Waste Treatment Council (HWTC) (031), Sterling Chemicals (026), SOCMA (020), Amoco (L003), Chemical Manufacturers Association (CMA) (034), Monsanto (019), Ross Environmental Services (L005), BP America (012), Olin Chemicals (061), GSX (044), Dow Chemical Company (048), and Institute of Chemical Waste Management (ICWM) (030)) opposed the use of No Land Disposal as a treatment standard for any hazardous waste. These commenters objected to the No Land Disposal treatment standards based on recycling, no current generation of the waste, and incineration from which no ash or other residuals are generated. (Each of these categories is discussed in greater detail in sections 6.3, 6.4, and 6.5 below.)

Dow Chemical Company (048) stated that the scenarios for which EPA claims No Land Disposal is appropriate are not valid. Dow commented that if a waste was ever generated, then it is likely that it is currently or will be generated in Superfund activities, RCRA corrective actions, or landfill leachates. Therefore, in the following three scenarios in which No Land Disposal was proposed, this standard is not appropriate: (1) the waste can be totally recycled without generating a prohibited residue; (2) the waste is not currently being generated; and (3) the waste is no longer being generated and is not anticipated to be generated during a RCRA or CERCLA corrective action.

Monsanto commented that EPA has adopted a practice of extensive use of No Land Disposal as a treatment standard, which is unwarranted and unwise, and will lead to many interruptions of responsible waste management.

Agency Response

In specifying No Land Disposal as a treatment standard, the Agency examined available data to determine whether (1) the waste can be totally recycled without generating a prohibited residue; (2) the waste is not currently being land disposed; or (3) industry is no longer generating the waste and the waste is not anticipated to be generated during a RCRA or CERCLA corrective action. If the underlying premise for promulgating a treatment standard of No Land Disposal for a specific waste is proven to be incorrect, the Agency will revise the treatment standard as necessary. In the past, EPA has acted on data provided by the regulated community, which have shown that one or more of the underlying premises for the No Land Disposal treatment standard is incorrect (e.g., a particular waste is in fact being generated), and has revised the treatment standard.

In a recent final rule (54 FR 18836, May 2, 1989), which amended the No Land Disposal treatment standards for the First Third scheduled wastes (40 CFR 268.43), EPA stated that:

> *Because the facts on which the final No Land Disposal standards were premised no longer apply, EPA has decided to amend the final rule so that the No Land Disposal standards will not apply to nonwastewater forms of those wastes that either were disposed of before the August 17, 1988, final rule or that are generated in the course of treating wastewater forms of the waste (such as leachate or ground water that is contaminated with leachate).*

Where the premise for a No Land Disposal standard is that the waste is no longer being generated, EPA will adopt the standard only for wastes generated from the process described in the waste listing description and disposed after the effective date of the prohibition.

The Agency emphasizes that a No Land Disposal standard does not imply that the waste is so extremely hazardous that it cannot be safely land disposed or handled; rather, it means that there is no need to land dispose the waste because alternative forms of management exist or industry is no longer generating the waste.

Summary of Comments

Monsanto (019) noted that a waste not currently being land disposed may require such disposal in the future, for example, if a process resumes. Monsanto further noted that wastes historically land disposed may also have to be managed in corrective actions. Monsanto asked the Agency to clarify that the No Land Disposal restrictions do not apply to such wastes.

Agency Response

If, as the commenter proposes, a process resumes in the future, then a demonstration can be made to the Agency that the premise underlying the original promulgation of a No Land Disposal standard is no longer valid. The Agency would then evaluate whether to amend the No Land Disposal standard. The commenter's second point about wastes to be managed in corrective actions is addressed in the Agency's response to the previous comment summary (i.e., the No Land Disposal standard does not apply to nonwastewater forms of wastes disposed prior to August 17, 1988). In addition, for those Second Third wastes proposed to have No Land Disposal as a treatment standard, the Agency has specified that the treatment standard applies only to those wastes defined in the original listing and disposed after the effective date of the Second Third rule.

Summary of Comments

GSX (044) stated that the No Land Disposal treatment standard is unreasonable and impractical for all scenarios of waste generation. In the case of spill cleanups and lab packs, GSX maintained that landfilling was the most practical available disposal method. GSX asked EPA to consider that the "point of diminishing returns" applies to waste disposal, and asked that the Agency include exclusions to the No Land Disposal standard.

Agency Response

EPA believes that it has addressed most of the problems relating to spill cleanups in its May 2, 1989 Federal Register notice. In essence, such spills would not be subject to the No Land Disposal standard based on no generation because they would not be generated from the process in the listing description. Issues relating to lab packs are addressed in Chapter 15 of this Response to Comments Document.

Summary of Comments

Two commenters (Sterling Chemicals (026) and Monsanto (019)) stated that the establishment of treatment standards for all scheduled wastes would avoid administrative problems in the future and provide needed guidance on final disposal to industry and treatment facilities. HWTC (031) urged EPA to develop specific treatment standards based on properly evaluated BDAT, and eliminate the No Land Disposal treatment standards from this and all future rulemakings.

Agency Response

The Agency's evaluation of wastes for which it promulgates No Land Disposal has shown that there is no need to land dispose the wastes because alternative forms of management exist or because the waste is no longer generated. The Agency believes that the No Land Disposal treatment standard is appropriate in these cases. However, the Agency will invoke this standard for wastes no longer being generated only in the limited circumstances stated in the May 2, 1989 notice.

Summary of Comments

Monsanto (019) stated that the Agency should define treatment levels or methods of treatment wherever feasible. The commenter stated that it is important that something be defined as BDAT in order to gain access to treatability variances under 40 CFR 268.44. Monsanto argued that it is not practical to use No Land Disposal broadly for this purpose.

Agency Response

EPA does indeed try to establish numerical treatment standards or specify a treatment method where possible. However, it actually would be easier to make the treatability variance showing where the standard is No Land Disposal since it normally is easier to show that EPA's premise underlying the treatment standard does not apply to the waste for which the variance is sought. (For instance, ordinarily there would not need to be any showing of whether treatment is being conducted properly.)

6.2 The No Land Disposal Treatment Standard is Unlawful

Summary of Comments

Three commenters (Hazardous Waste Treatment Council (031), SOCMA (020), and Chemical Manufacturers Association (CMA) (034)) stated that the No Land Disposal treatment standard is unlawful, and illegally subverts the Agency's obligation to establish treatment standards prior to land disposal as required by section 3004(m) of RCRA. CMA pointed out that section 3004(m) requires EPA to set a level or method of treatment; therefore, No Land Disposal as a treatment standard is not appropriate. This section does not direct or empower EPA to set "no standards" and call them a level or method of treatment. This approach adds an element of inflexibility and uncertainty to an already rigid statutory scheme.

Agency Response

This issue was raised in the First Third rule and is not reopened for comment or review here. However, the No Land Disposal treatment standard is entirely lawful, analogous to the zero discharge standard adopted for years under CWA technology-based regulations. Evidently, the commenters believe that where best technology can result in no waste being land disposed at all, the Agency is still obligated to establish a treatment standard that allows land disposal of the hazardous waste to continue. It is obvious that 3004(m) does not compel this anti-environmental result.

6.3 No Land Disposal Based on Recycling

Summary of Comments

Amoco (L003) stated that generators of wastes that fit the description of wastes with No Land Disposal as the treatment standard, but which are not suitable for recycling, will have no legal option for managing the waste.

One commenter, ASTSWMO (L009), stated that the No Land Disposal treatment standard does not address situations when recycling becomes infeasible because of operational and economic considerations of recycling, or cleanup of contamination of past disposal spill sites. ASTSWMO suggested that land disposal restrictions should identify levels of treatment required prior to land disposal, not alternative options, even if these are preferable or generally used by current generators.

Four other commenters, Dow Chemical Company (048), BP America (012), HWTC (031), and CMA (034) also stated that it will often be infeasible to recycle soil and debris contaminated with these wastes originating from CERCLA cleanups and spills.

CMA (034) and Monsanto (019) noted that a waste that is usually totally recycled will not always be suitable for recycling. If the waste is contaminated, or does not meet quality specifications, or is spilled on soil or water, total recycling will not be possible. The same would occur if a recycling outlet disappears or market demand changes.

Agency Response

These comments have no bearing on the Second Third rule because the Agency is not adopting any treatment standards where the standard is No Land Disposal based on recycling. The commenters should, however, refer to the May 2, 1989 Federal Register notice discussion of the standard for waste codes K061 and K069.

Summary of Comments

Dow (048) asked that the "No Land Disposal based on recycling" standard not be established for any RCRA wastes.

Agency Response

See response to previous comment.

Summary of Comments

Ross Environmental Services (L005) asked EPA to recognize that many recycling operations produce a waste residue which must be further managed. The current standard of No Land Disposal does not require further treatment of these residues to meet established standards, and there is not the most environmentally protective standard.

Agency Response

This issue is not raised by any of the standards in the Second Third rule. There are certain situations, however, where recycling does not generate a hazardous waste derived from the listed hazardous waste being recycled. These circumstances are described to some extent in the discussion of K061 in the First Third rule.

6.4 Sham Recycling

Summary of Comments

The Hazardous Waste Treatment Council (HWTC) (031) commented that the No Land Disposal treatment standard based on recycling encourages sham recycling. HWTC believed that the No Land Disposal standard may become a guise for doing no effective treatment under the label of "recycling." The commenter noted that the recycling process may generate a slag or residue that cannot be further recycled. HWTC argued that in these instances, slag residues could be land disposed without meeting any treatment standards simply because some of the waste was recycled. HWTC stated that the residues should be tested to ensure that they meet a BDAT standard established for the constituents of concern. Without testing the residue, there is no safeguard to ensure that "recycling" is not simply a pass through of constituents to a leachable slag, or that "recycling" is not simply a cover for de facto disposal.

HWTC also objected to defining recycling practices so broadly that any "recycling" practice qualifies as BDAT, irrespective of the effectiveness of the treatment operation. HWTC asked EPA to evaluate specific recycling technologies for BDAT and establish specific performance standards for each recycling technology.

Agency Response

To the extent this point is an issue, it is an issue in the First Third rule, not this rulemaking.

6.5 No Land Disposal Based on No Ash

Summary of Comments

HWTC (031) expressed concern that a so-called "no ash" waste may be treated jointly with a waste for which a numeric BDAT is established, placing in question which BDAT standard applies -- the numeric BDAT or No Land Disposal standard. The commenter requested clarification on how wastes subject to the No Land Disposal based on no ash treatment standard are to be managed in emergency cleanup situations.

Agency Response

EPA amended the no ash standards in the May 2, 1989 Federal Register notice. This comment is moot.

Summary of Comments

CMA (034) argued that EPA's solution of allowing unanticipated generators of No Land Disposal wastes to petition to establish BDAT is no solution. CMA argued that if a logical approach to treatment of a particular waste material is incineration, the unanticipated generator of the material may not be able to carry out incineration to determine BDAT treatment standards for incineration residues. This could occur if an incinerator operator is unwilling to take the material because it may cause his ash to carry a treatment standard of No Land Disposal.

Agency Response

Should this situation arise, EPA believes that an appropriate form of emergency relief could be crafted. Because of the May 2, 1989 Federal Register notice, the Agency does not think this is a situation likely to occur often, if at all.

Summary of Comments

Monsanto (019), Hazardous Waste Treatment Council (031), and CMA (034) stated that commercial incinerators are often unwilling to accept wastes with a treatment standard of No Land Disposal based on no ash. Typically, hazardous waste incinerators burn a variety of materials and cannot be dedicated to burning a single waste at any particular time. Presumably, when a no ash material is burned in the presence of other materials that result in ash, EPA's "derived-from" rule will impose the stigma of the No Land Disposal standard on such ash. CMA noted that this problem would not occur if EPA were to declare that the waste-code of a no ash material does not carry through to any ash resulting from its incineration in conjunction with other wastes.

In particular, Monsanto commented that the Agency's No Land Disposal standard based on no generation of ash for K015 waste, promulgated in the First Third rule on August 17, 1988 (53 FR 31154), is inappropriate. Monsanto stated that it has demonstrated to the Agency that the assumption of no generation of ash is incorrect. Monsanto stated that, as a result of the No Land Disposal standard, commercial treaters have indicated they will not accept K015 waste because the ash from K015 waste commingles with other ash burned concurrently and produces a combined ash that cannot be land disposed. Monsanto claimed, therefore, that it has no lawful means of disposing of its K015 waste. Monsanto is actively developing a petition to pursue an administrative variance to the No Land Disposal standards under 40 CFR 268.44(h).

Agency Response

EPA has amended the K015 waste code and will develop numerical treatment standards for that waste.

Summary of Comments

Ross Environmental Services (L005) commented that No Land Disposal based on no ash does not take into account the mixture of these waste codes with other wastes that do generate ash or spill residues, such as absorbent, rags, and disposable clothing. Incinerating these mixtures or spill residues result in a residue that could not be landfilled, or even further treated. The commenter argued that the amount of residue barred from land disposal would be very significant given the continuous operation of most incinerators.

Agency Response

This comment is moot because of the May 2, 1989 Federal Register notice that eliminated all of the "no ash" treatment standards.

6.6 No Land Disposal Based on No Generation

Summary of Comments

Several commenters (Mobay (060), Dow Chemical Company (048), Ross Environmental Services (L005), and HWTC (031)) opposed the No Land Disposal treatment standard based on no generation. These commenters stated that the Agency incorrectly assumes that if a waste, as generated today in its pure form, is not land disposed, a No Land Disposal Standard can be promulgated without considering whether the waste has ever been land disposed. Based on the "derived-from" and mixture rules, if the waste was ever generated, then the waste is or will be generated in Superfund activities, RCRA corrective action, or landfill leachate. Therefore, use of this treatment standard is not appropriate.

Olin Chemicals (061) also commented that the No Land Disposal based on no generation treatment standard should not be used by EPA, and listed possible scenarios for generation of a waste in this category: (1) a new process or product, (2) a waste that is only sporadically generated (such as once every 3 or 4 years), (3) wastes produced by CERCLA/RCRA corrective actions or remediations, and (4) misinterpretation by EPA of biennial reports. If for any reason a waste with a treatment standard of No Land Disposal based on no generation were to be generated, it would place an unnecessary burden on the generator who must then apply for a treatability variance or modification of the regulation.

Agency Response

In its final rule dated May 2, 1989 (54 FR 18836), the Agency amended the No Land Disposal treatment standards for First Third scheduled wastes. The No Land Disposal standard will not apply to nonwastewater forms of these wastes disposed before August 17, 1988, or generated in the course of treating wastewater forms of the waste. Nonwastewater forms of these wastes that are derived from historically managed waste will not be prohibited until May 8, 1990. The Agency also proposed this approach for wastes in the Second Third (54 FR 1073, January 11, 1989). EPA has amended 40 CFR 268.43 to make it clear that the standards apply to nonwastewaters generated by the process described in the waste listing description and disposed after August 17, 1988. In another rulemaking (54 FR 8264, February 27, 1989), the Agency amended the schedule for prohibiting hazardous wastes by providing that certain multi-source leachate that is derived from hazardous waste will be placed in the Third Third, and thus will be prohibited from land disposal no later than May 1990. These two rules clarify application of the No Land Disposal treatment standard and address the concerns expressed by these commenters.

6.7 "Derived-From"/Mixture Rules

Summary of Comments

Hazardous Waste Treatment Council (031) requested clarification in the rulemaking of how to manage wastes with a treatment standard of No Land Disposal based on no generation that are in fact generated (or can be considered newly "regenerated" by the "derived-from" rule) as part of closure activities (e.g., sludges from impoundments undergoing closure). The commenter asked EPA to reconcile the No Land Disposal standard with the "derived-from" rule and correct it in the final rule.

Institute of Chemical Waste Management (030) and Sterling Chemicals (026) also commented that the "derived-from"/mixture rules result in potential sources of waste with a treatment standard of No Land Disposal which hampers the ability to treat and dispose of residues derived from these wastes. ICWM stated that such wastes could be derived from State and voluntary cleanup actions or, eventually, wastes managed in the Federal Superfund program. HWTC (031) and Sterling Chemicals (026) also stated that the No Land Disposal standard is not appropriate for remedial/closure/cleanup situations. ICWM maintained that until EPA negates the waste-code carry-through that results from the "derived-from"/mixture rules, the use of No Land Disposal should be restricted to those wastes where land disposal itself presents a real threat. ICWM asked EPA to state categorically that the No Land Disposal standard does not apply to any "derived-from"/mixture waste.

Agency Response

These concerns were addressed in the May 2, 1989 Federal Register notice that states that the No Land Disposal standards that are based on no generation of the waste do not apply to cleanup residues, but only to the waste as generated from the process in the listing description that are disposed of after the date of the prohibition.

Summary of Comments

Sterling Chemicals (026) commented that wastes that generate no residuals during treatment of the listed waste form may be spilled onto soil or may result in tank wash waters that are hazardous because of the mixture rule.

Agency Response

See response to previous comment and response to comment of GSX in section 6.1 of this document.

Summary of Comments

One commenter, Chemical Manufacturers Association (CMA) (034), argued that the preamble discussion revealed a growing recognition on EPA's part that the No Land Disposal standard may be of limited utility. According to CMA, the Agency conceded that such a standard is inappropriate for any wastewaters and some nonwastewater residues. However, CMA stated that the Agency did not address the status of solid residues that may be generated from treatment of leachate or wastewater derived from hazardous waste carrying a No Land Disposal BDAT restriction in its solid form. CMA also argued that EPA did not address solid residues that may result from a spill of a No Land Disposal waste in solid form.

Agency Response

These comments were addressed in the May 2, 1989 Federal Register notice.

Summary of Comments

Ross Environmental Services (L005) also argued that "no generation" as a basis for a No Land Disposal treatment standard is unrealistic, as wastes are being generated through the "derived-from" rule in closure activities. The presence of a No Land Disposal waste code gives companies no options for managing waste under a clean closure program. Ross recommended that EPA either (1) provide relief from the mixture rule as it applies to residues of treatment, which would allow management of waste residues with No Land Disposal standards; or (2) establish treatment standards for all waste codes with No Land Disposal as a treatment standard. These standards should be based on technology transfer from similar waste treatability groups.

Agency Response

These concerns were addressed in the May 2, 1989 Federal Register notice.

Summary of Comments

The Institute of Chemical Waste Management (030) suggested that a specific technology could be used in those cases where concentration standards cannot be identified for "derived-from"/mixtures of wastes. HWTC (031) also stated that specific treatment standards based on properly evaluated BDAT should be set for all wastes, or that specified technologies be identified where appropriate.

Agency Response

EPA is by and large adhering to these suggestions, which reflect the Agency's own methodology as described in the November 7, 1986 framework rule. The Agency has noted elsewhere in this record and in the records of other land disposal prohibition rulemakings the difficulties involved in basing standards on specific methods of treatment.

Summary of Comments

The Dow Chemical Company (048) argued that the No Land Disposal treatment standard should not be promulgated nor should the "hard hammer" be allowed to fall unless the "derived-from" and mixture rules are modified. Dow maintained that EPA's interpretation of "derived-from" and mixture rules and waste codes is not consistently followed in this proposal. The commenter argued that because of the "derived-from" and mixture rules the No Land Disposal treatment standards and the Clean Water Act "no discharge" standards are not analogous. Dow argued that if a waste ever was generated, then it, and some residual of the waste, is or will be generated in Superfund activities, RCRA corrective actions, or landfill leachates.

Agency Response

EPA is generally not applying a No Land Disposal standard to "mixture" and "derived-from" rule wastes generated in the past. See the May 2, 1989 Federal Register notice.

Summary of Comments

CMA (034) stated that the Agency should clarify the scope of the No Land Disposal treatment standard (i.e., that the standard applies only to wastes generated from a manufacturing process after August 8, 1988). Monsanto (019) supported the Agency's settlement agreement that moved leachates and residues derived from treatment of leachate to the Third Third. Monsanto stated that No Land Disposal based on no ash is inappropriate, and that biological sludge from the treatment of leachate also faces a No Land Disposal standard.

SOCMA (020) commented that EPA's limitations on the use of No Land Disposal as a treatment standard supports SOCMA's contention that EPA should grant a two-year extension to all spill cleanup materials and soil and debris contaminated with listed hazardous wastes, and develop a generic standard for all of these materials.

Agency Response

The May 2, 1989 Federal Register notice answers the comments of Monsanto and CMA. SOCMA's suggestion is premature, given that treatment capacity exists for at least some types of soil and debris mixtures. EPA is investigating whether separate treatment standards should be established for all soil and debris.

6.8 Treatability Variance Petitions

Summary of Comments

The Hazardous Waste Treatment Council (031) commented that EPA lacks the resources to process the large number and wide variety of variances that can be expected if the No Land Disposal standard is promulgated. HWTC pointed out that an EPA official told Council members that no funds had been budgeted for processing treatability variance petitions. If variances are not processed expeditiously, sludges will have to remain in surface impoundments and wastes will have to be stored (post-treatment) indefinitely. Ross Environmental Services also noted that a No Land Disposal treatment standard for a waste treated prior to the effective date of the standard but which remains in the treatment system will prevent any residues from being further managed until a variance is received. Ross argued that limited storage space for the residues would drive a treatment facility to shut down before a variance could even be put to public comment. In addition, closure material must be removed from closure units within three months of entering closure. The time required to obtain a variance would necessitate leaving closure material in place until the variance was received. Ross argued that this situation was neither practical nor environmentally protective.

Agency Response

EPA believes that it has amended the existing No Land Disposal waste codes so that the commenters' concerns about large numbers of treatability variances needing to be filed is no longer valid. However, the Agency would like to clarify that resources are available to review treatability variances in a timely manner upon receipt.

Summary of Comments

Ross Environmental Services, Inc. (L005) objected to the Agency's response that "derived-from" wastes subject to the No Land Disposal treatment standard may apply for treatability variances. Ross argued that preparing and submitting a treatability variance to EPA, resulting in a review, public notice, and approval process, is lengthy and impractical.

Agency Response

EPA believes that the commenters' principal (and legitimate) concerns were addressed in the May 2, 1989 Federal Register notice.

6.9 Difficulties with Disposal Stemming from the No Land Disposal Standard

Summary of Comments

CMA (034) and SOCMA (020) argued that the existence of a No Land Disposal standard for certain listed wastes will stigmatize remedial residues that may have to carry waste codes associated with No Land Disposal wastes. Even assuming EPA establishes numerical or technological BDAT standards for treatment of these remedial residues, or residues of management of such remedial residues, persons seeking disposal capacity for such residues may face a difficult burden in persuading the disposal operator that the material is not a No Land Disposal waste, but rather a form of the same numbered, listed waste which carries a treatment standard. SOCMA added that any further unnecessary inhibitions on the legitimate disposal of wastes will fall hardest on smaller generators because they usually do not have the treatment and disposal options available to larger companies.

Agency Response

The May 2, 1989 Federal Register notice amends the rules to state that the No Land Disposal treatment standard normally does not apply to cleanup residues.

6.10 No Land Disposal Standards for P and U Wastes

Summary of Comments

Two commenters, Dow Chemical Company (048) and BP America (012), argued against the use of No Land Disposal based on the assumption of total recycling of any P or U wastes. The commenters argued that generation of P and U wastes can occur in wastes that cannot be recycled, mainly in historical wastes and spill residues of off-specification commercial chemical products. In many cases (e.g., in the cleanup of a spill), recycling of the chemical product found in the contaminated soil or debris will not be feasible.

Agency Response

EPA is not promulgating any such standards as part of this rule.

7. MANAGEMENT OF "SOFT HAMMER" WASTES

Summary of Comments

The Institute of Chemical Waste Management (030) noted that "soft hammer" notifications could be used by the Agency to track and identify treatment being used for these wastes. Generators have been required to notify agencies and waste handlers when shipping "soft hammer" wastes since August 1988. The Institute suggested that the Agency use this information to identify the most practical methods currently being used to treat "soft hammer" wastes.

Agency Response

The Agency has identified several treatment technologies that may be used to treat "soft hammer" wastes. For nonwastewaters, these technologies include metals recovery, leaching/oxidation, metals stabilization, ash stabilization, chemical oxidation, biodegradation, incineration, PCB incineration, and open detonation/open burning. Treatment technologies generally considered appropriate for wastewaters include aqueous metal recovery, chromium reduction, metals precipitation, steam stripping, carbon adsorption, oxidation/reduction, chemical oxidation, biodegradation, incineration, and PCB incineration.

In the Second Third final rule, EPA is listing these technologies as general categories that the Agency believes have a reasonable probability of application to the "soft hammer" wastes. These categories do not specify any particular type of technology (e.g., incineration can represent liquid incinerators, rotary kiln, or fluidized bed incinerators). The actual choice of a particular technology or train of technologies depends on the physical and chemical characteristics of the specific waste. Specific selection of one technology depends upon its functional design.

The Agency emphasizes that these technologies are not to be considered as strict treatment requirements. In general, however, EPA will use these technologies in evaluating the demonstrations and certifications received for the "soft hammer" wastes and is providing this information to aid generators in determining the best practically available technology (if any) for treating their waste in compliance with 40 CFR 268.8.

Summary of Comments

The Department of Energy (028) requested clarification on the relationship between First and Second Third "soft hammer" wastes and California list statutory prohibition levels and treatment standards. DOE noted that in the First Third rule, EPA stated that where "soft hammer" wastes are subject to a California List treatment standard, the "soft hammer" provisions do not apply; in the Second Third rule, however, the Agency stated that the "soft hammer" provision would apply.

Agency Response

In the First Third Final Rule (August 17, 1988), the Agency stated that for "soft hammer" wastes subject to California list treatment standards under Part 268 Subpart D (e.g., a treatment standard of incineration for liquid hazardous wastes containing HOCs in concentrations greater than or equal to 1,000 mg/l), the California list treatment standard is more protective than the "soft hammer" requirements. Where "soft hammer" wastes are not subject to Agency-established California list treatment standards under 40 CFR 268.42, however, the "soft hammer" provisions are applicable. There is a distinction between California list wastes that are subject to the statutory prohibitions of RCRA section 3004(d) (e.g., the metals and free cyanides), and wastes which EPA has prohibited by rule and promulgated treatment standards (e.g., the liquid HOCs described above).

For wastes with established treatment standards, the Agency has made a determination regarding the best treatment for such wastes and believes that such a standard is more protective than the "soft hammer" provisions. For wastes subject to the statutory prohibitions or to the statutory levels codified in 40 CFR 268.32, EPA has not made a determination regarding the best treatment for such wastes, and therefore, the waste management requirements under the "soft hammer" provisions may be more protective. In no case, however, may such waste be disposed of if concentrations of California list constituents exceed the statutory prohibition levels. See generally 53 FR at 31187 (August 17, 1988). This approach is consistent with the Agency's intent that where more than one regulatory requirement applies, the more stringent requirement governs.

For Second Third wastes, EPA is not reinterpreting any of the principles relating to the RCRA "soft hammer" provisions contained in the First Third rule and the preamble.

Summary of Comments

The Department of Energy (028) also requested clarification of the language in the Second Third proposal that moved certain waste categories to the Third Third. EPA stated that it took this action "in order that residues from 'soft hammer' wastes may be further treated in land disposal units that do not meet minimum technology requirements." DOE stated that this language is unclear since "soft hammer" wastes must be managed in units that meet minimum technology requirements. DOE further stated that the manner in which EPA regulates residuals from substantial treatment of "soft hammer" wastes that are wastewaters and wastewater residues resulting from treatment in land disposal facilities is unclear. The HWTC (031) stated that it strongly opposes the placement of residues from "soft hammer" wastewaters in land disposal units that do not meet minimum technology requirements.

Agency Response

This issue was addressed at length in the First Third rule (53 FR at 31184). EPA believes its decision is fully explained there, and that its exercise of discretion to amend the schedule is environmentally justified, and moreover absolutely committed to its discretion.

EPA thus believes that persons who are substantially treating their wastes to levels that may ultimately satisfy the treatment standards are not precluded from further treatment of these wastes in polishing or advanced biological treatment (i.e., 3005(j)(3)) units that are substantially protective of human health and the environment (although not equivalent to minimum technology impoundments from the standpoint of preventing migration from the unit). Furthermore, EPA does not believe that these types of treatment residuals are the types of contaminated wastes that should be given priority in the First and Second Third of the schedule.

Summary of Comments

The Chemical Manufacturers Association (034) stated that requiring generators of "soft hammer" wastes to prepare certifications regarding the availability of alternative capacity and to undertake treatment prior to disposal of "soft hammer" wastes in surface impoundments exceeds EPA's authority under RCRA section 3004(f)(6)(a)(ii). CMA noted that it is pursuing this issue in American Petroleum Institute v. EPA, (D.C. Cir. No. 88-1606, et al.) (previously No. 88-1581).

Agency Response

EPA amended its initial approach to "soft hammer" certification in the First Third rulemaking in response to comments received on the proposed rule (see Comment Response Background Document for the First Third Proposed Land Disposal Restrictions Rule, August 8, 1988, p. 2-9). The Agency believes that the current certification requirements are responsive to the comments and are necessary to ensure compliance with the land disposal restrictions. The Agency has not amended the certification requirements in the Second Third rule.

Summary of Comments

The Dow Chemical Company (048) requested that EPA allow "soft hammer" wastes to be managed in surface impoundments with waivers under RCRA 3005(j)(3) (aggressive biological treatment), and RCRA 3005(j)(13) (surface impoundments that are subject to corrective action orders entered in or before October 1, 1984).

Agency Response

EPA addressed this issue fully in the First Third rule (53 FR 31185-186), and is not reopening its interpretation for comment here.

8. "DERIVED-FROM" RULE/WASTES

8.1 Comments Specific to Leachate Issues

Summary of Comments

Waste Management, Inc. (041), the Chemical Manufacturers Association (034), Eastman Kodak Co. (059), and API (042) all referred to proceedings in Chemical Waste Management v. EPA (869 F.2d 1526), which addressed issues including the "derived-from" principle and treatment standards for leachate. The commenters noted that as a result of the litigation, the judicial stay of August 1988 will remain in place pending further study of appropriate treatment standards for multi-source leachate. EPA subsequently issued a final rule on February 27, 1989 (54 FR 8264), which rescheduled all multiple-source leachate to the Third Third, and stated that a leachate treatability study will be undertaken so that appropriate treatment standards can be determined.

Waste Management noted that the interim agreement post-dated the Second Third proposal, and that statements in the proposed rule seemed in conflict with the agreement. CMA and Eastman Kodak expressed support for rescheduling regulation of leachates and media contaminated by such leachates to the Third Third rule.

Waste Management, Dow Chemical (048), and SOCMA (020) expressed their view that leachate is a unique waste that should have a separate treatment standard. Dow Chemical (048) further stated that historical residues that are derived from wastes should also have a new RCRA waste code.

Agency Response

EPA issued a final rule on February 27, 1989 (54 FR 8264) scheduling multi-source leachate that is derived from hazardous wastes in the Third Third (May 1990). Residues from treating multi-source leachate, or contaminated by such leachate (e.g., soil or ground water) are also subject to the Third Third prohibition date. As the commenters suggested, treatment standards for leachate will be studied separately in order to identify appropriate RCRA section 3004(m) standards, and leachates and leachate-contaminated wastes are rescheduled to the Third Third.

Summary of Comments

Eastman Kodak (059) challenged EPA's authority to apply the derived-from rule to leachate. Eastman Kodak argued that the 40 CFR 261.3(c)(2) "derived-from" rule simply states that any solid waste generated from the treatment of a hazardous waste is a hazardous waste, not that the residue is also the listed waste.

Eastman Kodak contended that in order for a residue to be considered a listed waste, it must be listed itself in 40 CFR 261, Subpart D.

API stated that EPA should retract the statements made in the First Third rule concerning the "derived-from" rule and its application to treatment residues.

Agency Response

As stated in the response to the above comment, EPA has rescheduled leachate to the Third Third and will study leachate as a separate waste treatability group. However, the Agency is not reversing its general position regarding regulating treatment residues by virtue of the "derived-from" rule. Furthermore, the issue is not part of this rule but was raised in the litigation challenging the First Third rule. All residues from treating the original listed wastes are considered to be a form of the listed wastes by virtue of the "derived-from" rule; the Agency may set separate treatment standards for leachate within this interpretation.

Summary of Comments

Cyanamid (037) commented that leachate and wastewaters are typically too dilute and complex to warrant consideration for recycling. Cyanamid stated that the dilute nature of such streams makes incineration a dubious and highly inefficient treatment standard. The commenter recommended that EPA allow continued land disposal and management of leachate in surface impoundments that meet minimum technology requirements. Waste Management, Inc. (041) stated that basing treatment standards for leachate on the underlying waste codes is inappropriate, and results in there being little, if any, capacity permitted to accept all the waste codes, or capable of treating leachate to all applicable standards.

Agency Response

As discussed previously in this section, EPA rescheduled multi-source leachate to the Third Third; therefore, analysis of the treatability of leachate will be addressed in the Third Third.

8.2 Separate Treatment Standards and Schedule for "Derived-From" Wastes

Summary of Comments

Dow Chemical (048), Waste Management, Inc. (041), Olin Chemicals (061), and the Department of Energy (028) argued that treatment standards for "derived-from" wastes should be developed as a separate treatability group by EPA because "derived-from" wastes cannot necessarily be treated in the same manner and to similar levels as the original waste. Dow stated that EPA's statement in the Second Third proposal that the treatment standards are based on the most concentrated form of the waste and that less concentrated forms can be treated to meet these standards is technically invalid. The commenters contended that the selection of appropriate treatment technologies for "derived-from" wastes depends not on the RCRA waste code(s) of the original waste, but on the physical and chemical properties of the "derived-from" wastes themselves. In many cases, they argued, the technology used to treat an original waste is not appropriate for a "derived-from" waste.

Dow Chemical offered the following example: The F024 land disposal restrictions treatment standard is based on incineration for both wastewaters and nonwastewaters; it may be incorrect to assume, however, that "derived-from" landfill leachates, contaminated ground water, tank wash waters, dike waters, and spills can be readily incinerated. The Department of Energy offered another example: vacuum filtrate from treatment of scrubber wastes resulting from incineration may not be treatable to the same levels as the incinerator ash.

Dow also pointed out, in support of its argument that chemical and physical properties of "derived-from" wastes should be evaluated, that EPA groups "P" and "U" wastes into treatability groups based on similarity of chemical make-up.

Agency Response

As discussed in section 8.1, EPA has decided to evaluate multi-source leachate, which constitutes an important subcategory of "derived-from" wastes, as a separate treatability group. Other "derived-from" wastes and waste mixtures that contain more than one hazardous waste are required to meet the treatment standards for each of the hazardous wastes that they contain, and in the case of different standards for a constituent, to meet the most stringent standard that applies.

EPA believes that, given the statutory deadlines and the enormous task facing the Agency, it is appropriate that commenters have the burden of proof to show that their waste is different, or at least, provide data during rulemakings demonstrating that proposed treatment standards are inappropriate. Available data do not demonstrate difficulties in meeting treatment standards. In cases where it is not possible to treat individual "derived-from" wastes to the applicable treatment standard, the Agency will consider variances from the treatment standard. EPA cannot possibly meet the statutory deadline if it must evaluate separately and establish treatment standards for every type of mixture.

Summary of Comments

The Department of Energy (028) urged EPA to move the setting of treatment standards for "derived-from" wastes to the Third Third rule or to identify these wastes as "soft hammer" wastes so that EPA can properly evaluate each "derived-from" waste individually.

Agency Response

The Agency has rescheduled multi-source leachate and residues from treating multi-source leachate or contaminated by such leachate (e.g., soil or ground water) to the Third Third. Other wastes derived from First Third or Second Third wastes are subject to treatment standards for all listed wastes from which they are derived. A need to evaluate any other "derived-from" wastes individually has not been demonstrated to the Agency (with the possible exception of soil and debris which EPA is evaluating generically).

Summary of Comments

Dow Chemical (048) recommended that EPA develop site-specific waste codes and treatment standards for complex mixtures of hazardous wastes. Dow suggested that, through the permitting process, Regions or States could develop facility-specific treatment standards for combined wastes such as contaminated ground water, leachate, and wastewater treatment plant influent.

Agency Response

EPA could not conceivably meet its statutory obligations in the time provided if it proceeded as suggested. Nor have any data been submitted to EPA demonstrating a generic problem. EPA is, however, working with Dow as part of the leachate treatability study to determine if a separate treatability standard is warranted.

8.3 Application of the "Derived-From" Rule

Summary of Comments

The American Petroleum Institute (API)(042) objected to application of the "derived-from" rule to multi-source leachate and other treatment residues. API argued that the requirement that treatment standards for the original waste must be applied to "derived-from" wastes such as leachate and other residues would create ever-increasing volumes of waste with potentially ever-decreasing risks, and cause serious capacity problems. API recommended that the Agency revise its interpretation of the "derived-from" rule or establish an automatic "delisting" procedure for residues that cease to contain significant concentrations of the original listed waste.

Agency Response

As discussed in responses above, the Agency is not revising its interpretation of the "derived-from" rule. However, the Agency has rescheduled the land disposal restrictions determination for multi-source leachate and wastes derived from or contaminated by multi-source leachate to the Third Third and will consider separate treatment standards for leachate. Consideration of capacity problems was an important factor in EPA's decision to amend the schedule and consider leachates separately (see 54 FR 8264). The Agency has not been convinced that any other residues merit separate consideration and will apply land disposal restrictions requirements for any listed wastes from which the residues are derived.

The Agency also notes that it is currently developing a de minimis rule, which will propose to amend the definition of hazardous waste by establishing self-implementing, concentration and risk-based exemption levels for hazardous constituents in listed wastes. The effect of this rule, if finalized, will be that listed wastes and contaminated environmental media (e.g., soil and ground water) that contain the constituents identified and are below the exemption levels will no longer have to be managed as hazardous wastes, unless they are solid wastes that exhibit a characteristic. The Agency anticipates that the rule will be proposed in the Fall of 1989.

Summary of Comments

Dow Chemical (048) contended that application of the "derived-from" rule to treatment residues creates an overwhelming analytical, logistical, and compliance burden on large, integrated treatment facilities because of the multitude of wastes that come under the scope of the "derived-from" rule and the multiple waste codes that are carried through in individual "derived-from" wastes. Dow predicted that its individual "derived-from" wastes could become subject to hundreds of treatment standards resulting from waste code carry-through. Dow further predicted that the rule will force many large facilities into non-compliance because of the difficulty in meeting the proposed standards. Dow noted that under EPA's present interpretation of the "derived-from" rule, mixture rules, and its retroactivity position, a facility can never "lose" a RCRA waste code once the waste is treated at the facility.

Agency Response

EPA acknowledges that the "derived-from" rule and waste code carry-through can result in complicated sets of standards for large, integrated treatment facilities. The rescheduling of multi-source leachate in order to study appropriate separate treatment standard options should mitigate these concerns significantly. The Agency maintains that "derived-from" residuals generally can be treated to meet standards for the original, usually more concentrated, wastes. Therefore, the Agency is not persuaded that facilities will be forced into non-compliance. If it is truly impossible to meet standards, the Agency will consider a variance from the treatment standards.

Summary of Comments

Olin Chemicals (061) requested that EPA review their understanding of the "derived-from" rule because their current interpretation is unworkable and impractical. Olin stated that while they recognize the Agency must have a way to verify that BDAT standards are met, it does not follow that all treated hazardous waste should continue to be regulated as though no change in the waste has occurred. Olin urged the Agency to regulate waste residues like any other generated waste: only if they exhibit a specified hazardous characteristic or are specifically listed as a hazardous waste. Olin urged EPA to consider delisting residues as a possible regulatory option, but not for hazardous wastes that are treated to form nonhazardous wastes. Olin stated that it would be more logical for the Agency to make a regulatory change rather than require each user to submit petitions to cover every possible situation. RSR Corporation (016) also urged the Agency to eliminate the "derived-from" rule.

Agency Response

These are essentially First Third issues and were not reopened for comment or a challenge to the 1980 "derived-from" rule. These comments are beyond the scope of this proceeding. EPA, however, responds as a courtesy that regulating residues only if they exhibit a hazardous waste characteristic or are specifically listed would constitute elimination of the "derived-from" rule. The Agency has no intention of eliminating the "derived-from" rule. Further, the Agency believes that the "derived-from" rule is a reasonable allocation of the burden of showing that a listed waste is no longer hazardous (i.e., through delisting). However, the Agency again notes that it is evaluating the development of a de minimis rule, and refers the commenter to the discussion of this rule found in the first response in section 8.3.

Summary of Comments

Dow Chemical (048) suggested that the waste-code carry-through principle, the mixture rule, and the "derived-from" rule should only require one round of compliance with applicable land disposal restrictions standards. Once the treatment standard is achieved, the waste, its treatment residue, and mixtures would still be regulated, but would no longer be subject to land disposal restrictions standards.

Agency Response

The Agency does not agree that waste mixtures should require one round of compliance with applicable land disposal restriction standards in all cases. For example, if Waste "A" has a treatment standard of 10 mg/l for hazardous constituent "X" and is treated to meet the standard but is then combined with other waste streams and the combined waste stream now contains greater than 10 mg/l of "X," the other wastes must contain constituent "X" in treatable concentrations. Further treatment to minimize threats to human health and the environment thus would be appropriate before land disposal (see section 3004(m)).

8.4 Implications of Treatment Standards for "Derived-From" Wastes

Summary of Comments

Olin Chemicals (061) noted that in cases where a technology is specified as a treatment standard, EPA's rule that treatment residues must meet applicable treatment standards is impractical.

This rule, Olin argued, would require treatment of residues in a never ending treatment cycle since EPA has not specified an end point in the treatment process. Olin urged the Agency to amend the Second Third rule with a clarification statement that specifies an end point to treatment.

Agency Response

Under the land disposal restrictions program, residues from wastes treated in compliance with a treatment standard expressed as a specified technology may be land disposed. In some cases, the treatment standard may specify several technology steps. Repeated application of the treatment standard is unnecessary. Wastes treated under a treatment standard expressed as a concentration level may not be land disposed until the wastes meets the concentration level.

Most of the treatment standards promulgated in the Second Third rule are numerical. For 18 listed wastes addressed in the Second Third rule, the Agency did propose treatment standards expressed as specified technologies: incineration or fuel substitution for nonwastewater forms, and carbon absorption for wastewater forms.

For seven of the listed wastes (K027, K113-K116, U221, and U223), the Agency specifically stated in the proposal that any treatment residuals from either incineration or fuel substitution of the wastes are not prohibited from land disposal (54 FR 1079). As for carbon adsorption, the Agency also stated specifically that effluent wastewater from carbon adsorption of the specified wastes is not prohibited from land disposal. However, the spent carbon resulting from this treatment process must comply with applicable nonwastewater standards (54 FR 1080).

As discussed in the proposed rule, EPA believes that nonwastewater K039 can be effectively destroyed by incineration, and that the wastewater forms can be completely absorbed on carbon. Spent carbon would be required to be incinerated.

EPA does not agree that there are impracticalities inherent in the proposed technological standards. The general principle is that the treatment residue generated by the specified treatment method is no longer prohibited.

Summary of Comments

Mobay (060) and Waste Management, Inc. (041) expressed concern that in cases where a treatment standard is specified as a technology, the waste-code carry-through principle may require that wastes with relatively low concentrations of constituents be treated. Waste Management noted that in cases such as incineration, limited capacity may be quickly exhausted by the burning of relatively innocuous wastes. Mobay suggested that the Agency apply technology-based treatment standards only where there are analytical limitations or EPA lacks performance data on particular technologies. Waste Management requested that treatment standards expressed as technologies be limited to original wastes as generated or that EPA issue a rule stating that wastes that pass all nonwastewater BDATs would be considered to have met the technology-based standard.

Agency Response

With a few exceptions, the treatment standards promulgated in the Second Third final rule are expressed as numerical concentration levels. Treatment standards are expressed as a specified technology only when difficulties exist with the analysis of specific constituents in the waste. EPA's general preference is to set treatment standards as concentration levels to allow flexibility in treatment.

In response to the commenter's concern regarding incineration of "relatively innocuous" wastes due to the waste code carry-through principle, EPA explains in the preamble to the final rule (see section III.A.1.(c)) that it may not be appropriate to apply the specific technology to every mixture that contains the waste subject to that technology. However, EPA has structured the final rule in a way that the specified technology is more likely appropriate for the types of mixtures that are most likely to be encountered in the near term application of this rule. For example, EPA has specified incineration or fuel substitution as the treatment technology for certain wastes prohibited by the Second Third final rule. The most likely mixture for which these technologies might be inappropriate is contaminated soil and debris. In the final rule, however, EPA is granting a two-year national capacity variance for soil and debris for those wastes where BDAT has been specified as incineration. Multi-source leachate might also be contaminated with these wastes, but EPA has deferred standards for such leachates until the Third Third. See 54 FR 8264 (February 27, 1989). EPA also notes that in other situations it may be inappropriate for multi-waste mixtures to be treated by the specified treatment methods that are demonstrated treatment methods for most wastes that contain organic contaminants. Given the lack of immediate applicability to soil and debris and multi-source leachate, the Agency does not believe that there are many other situations where the promulgated treatment standards would prove inappropriate. However, for those situations, the treatability variance in 40 CFR 268.44 is available.

To further address the commenter's concerns, the Agency notes that it is currently developing _de minimis_ levels for certain hazardous constituents in listed wastes below which the waste will no longer be a hazardous waste for purposes of

Subtitle C regulation. At this time, EPA has not proposed these _de minimis_ levels. The Agency has not completed its evaluation of the regulations that would be affected by these _de minimis_ levels -- in particular their relationship to BDAT treatment standards.

Finally, EPA would like to point out that when a treatment method is specified as the treatment standard, residues resulting from the required treatment method are no longer prohibited from land disposal unless EPA should otherwise specify other requirements. (See sections III.A.3(f) and (h) of the preamble for further discussion of the applicability of treatment standards to treatment residuals where BDAT is established as a method of treatment. For additional discussion on these issues, see Volume 1 of the Response to Comments Background Document.)

Summary of Comments

Dow Chemical (048) stated that determining what waste a residue is derived from is difficult and often subjective. Dow further contended that the current land disposal restrictions program penalizes those who have carefully characterized their wastes because of the additional standards the facility would be required to meet, and will discourage careful evaluation of historical practices.

Agency Response

EPA acknowledges that "derived-from" wastes are often multi-source in nature and that accurate characterization is often complicated. Because Subtitle C treatment and disposal facilities keep records of wastes handled, determining what wastes residues are derived from should not be subjective. The Agency is not persuaded by the argument that the "derived-from" rule would penalize those facilities that have carefully characterized their wastes. In fact, if a facility does not accurately characterize its "derived-from" wastes, the correct presumption would be to include the broadest conceivable range of original wastes possibly contributing to the "derived-from" waste.

Summary of Comments

Dow Chemical (048) urged the Agency to consider a *de minimis* rule that would exclude measuring land disposal restrictions compliance concentrations for each RCRA waste code that comprises less than 0.5 percent of a facility's hazardous waste loading, provided the total excluded wastes are less than 10 percent of the total hazardous waste feed. Dow claimed that such an approach would leave 98 percent of the incinerator's throughput fully subject to the land disposal restrictions. Dow asserted that this rule would minimize an unnecessary analytical burden placed on facilities and would reduce non-compliance with the land disposal restrictions standards.

ASTSWMO (L009) stated that the need for a de minimis rule is critical and urged EPA to expedite its development to correct the open ended "derived-from" and "mixture" rules.

Agency Response

Although these comments are not specific to this rulemaking, the Agency again notes that it is currently evaluating the development of a de minimis rulemaking. This rule is discussed in more detail in the Agency's first response in section 8.3.

8.5 Application of "Derived-From" Rule to Contaminated Ground Water

Summary of Comments

API (042) argued that the designation of ground water contaminated by leachate as a hazardous waste by virtue of the "derived-from" rule exceeds EPA's statutory authority. The commenter contended that EPA has not shown that dilute contaminated media meet either the statutory definition of hazardous waste (RCRA section 1004(5)) or of solid waste (RCRA section 1004(27)).

Agency Response

The recent decision in Chemical Waste Management v. EPA (op. cit.) upholds EPA's position that contaminated environmental media such as soil and ground water are subject to application of the "derived-from" rule. The court concluded that the approach is reasonable and consistent with the Agency's general regulatory framework, which emphasizes that a listed waste remains hazardous even if it changes forms or is mixed with other substances. Contaminated ground water that is pumped or otherwise removed from an aquifer is clearly a solid waste under the established RCRA definition of any discarded (i.e., inherently waste-like) material that is not specifically excluded (see 40 CFR 261.2).

9. RETROACTIVITY

Summary of Comments

The American Petroleum Institute (042) urged EPA to renounce its position that hazardous waste listings are retroactive, especially in the case of previously treated or disposed of wastes. API stated that retroactive applicability of waste codes to treatment residues is illegal. API requested that EPA clarify whether residues from wastes that were listed as hazardous after treatment or disposal are subject to treatment standards for the original wastes by virtue of the "derived-from" rule.

Dow Chemical (048) noted that under EPA's interpretation of the "derived-from" and "mixture" rules and EPA's position on retroactivity, no facility can "lose" a RCRA waste code once the waste is treated. Dow argued that although it believes that historical wastes actively managed by facilities should be subject to the LDR requirements, low concentration residues from those same historical wastes should be exempted from the LDR requirements.

Agency Response

API's position was rejected by the D.C. Circuit Court in Chemical Waste Management v. EPA (869 F.2d 1526).

10. CAPACITY

Summary of Comments

Ross Environmental Services (L005) stated that the Agency has failed to propose treatment standards that take into account the volumes of residues generated as a result of the "derived-from" and mixture rules. Ross stated that they have been unable to locate treatment facilities willing to handle complex mixtures of waste codes (i.e., metal stabilization of multiple-code ash and scrubber water sludge). Ross stated that available capacity for treatment of incinerator residues is crucial for incinerators to be able to accept wastes with inorganic treatment standards requiring stabilization. Ross, therefore, recommended that EPA provide relief from the "derived-from" and mixture rules with respect to treatment residues from multi-waste/multi-process facilities. Ross suggested three approaches for consideration:

1. Apply highest treatment standard for a single constituent to the mixture of wastes instead of the lowest (i.e., most stringent);

2. Assign a new waste code to incinerator ash and residues to simplify record-keeping; or

3. Establish two-year capacity variance for waste mixtures containing organic and inorganic constituents.

Agency Response

The Agency disagrees with the commenter that there is a shortage of stabilization capacity capable of achieving the proposed treatment standards for multiple code residues. The Agency does not believe that relief from the "derived-from" rule is necessary for treatment residues. The Agency believes that "derived-from" wastes such as incinerator ash and scrubber water treatment residues are a more concentrated form of the waste from which they were derived, and therefore, can be expected to require the same type of treatment. The Agency believes that these wastes do not pose a treatability problem.

In conducting its capacity analysis, the Agency included only treatment technologies that used materials evaluated by EPA (i.e., cementitious and pozzolanic stabilization) in the assessment of available off-site and on-site treatment capacity. Also, the Agency included factors that account for performance variability when developing the BDAT standard such that any well-designed and well-operating treatment process should be capable of complying with the standards. Therefore, the Agency believes that it is reasonable to assume that the available capacity included in this analysis is capable of achieving the treatment standards for multiple code residues.

Summary of Comments

API (042) stated that it supports EPA in its conclusion that newly listed wastes are not subject to the "hard" or "soft hammers" if EPA fails to make a determination within six months of their listing as to whether their disposal is prohibited. API stated that if EPA acts too quickly in establishing treatment standards and prohibitions for these newly listed wastes, there is potential for crisis in the waste treatment, storage, and disposal capacity in the petroleum industry. Currently, many of the surface impoundments used by the petroleum industry are part of wastewater treatment systems at refineries and are used to treat very large volumes of wastewaters. Most of these impoundments do not meet minimum technology requirements (MTRs). If EPA newly identifies or lists large volume petroleum wastes and then makes land disposal prohibition determinations within six months, EPA will almost certainly have to issue a nationwide variance for these wastes because of a lack of alternative capacity. However, under EPA's definition of "facility," wastes could not be placed in existing surface impoundments because they do not meet MTRs. API and BP America (012) also stated that impoundments could not be upgraded to meet the MTRs in six months, nor could they be replaced with tanks in that period.

API recommended that EPA return to its original interpretation of RCRA section 3004(h)(4).

Agency Response

EPA has not listed large-volume petroleum wastewaters or wastewater sludges to date. If EPA does list these wastes, it will consider, as part of the land disposal restrictions determination, any potential impact on existing capacity as well as the industry's ability to find alternative treatment capacity.

EPA has not yet decided on the proper reconciliation between the land disposal ban prohibitions which include an immediately effective date requirement for disposal of national capacity variance wastes in MTR landfills and surface impoundments, and 3005(j)(6) four year retrofitting date. EPA will address this issue in later rulemakings if a need to do so is presented. EPA also notes that the commenter's position on the proper interpretation of the term "such facility" in section 3004(h)(4) was rejected by the D.C. Circuit in Mobil Oil v. EPA, (D.C. Cir. 88-1788).

11. TESTING

Summary of Comments

Dow Chemical (048) asserted that the performance of large, integrated facilities treating multiple waste codes can be effectively monitored through measuring indicator parameters. Under this approach, chemicals that are the most difficult to treat and that are treated in substantial quantities would be used to indicate the presence of other constituents regulated under the land disposal restrictions. Dow stated that appropriately selected indicators will ensure that all BDAT constituents are properly treated. Dow asserted that this approach would significantly reduce the analytical burden placed on generators without increasing environmental risk. The commenter cited sections I.B.2 and III.A.8 in the proposed rule as examples of the Agency's support of this approach for individual wastes.

Dow noted that the primary challenge is to select the appropriate indicator parameters and levels. Dow proposed that this could be done through the 40 CFR 270 permitting process and by those who are knowledgeable of large, integrated facilities. Compliance would be established in a self-implementing fashion.

Agency Response

With respect to analysis of complex mixtures of wastes such as may be generated by large integrated facilities, the Agency recognizes that such wastes may increase the total number of constituents with corresponding treatment standards, and potentially the burden of compliance monitoring. An individual facility's waste analysis plan provides the basis for that facility's compliance monitoring. This plan must be adequate to assure compliance with Part 268. However, a facility remains strictly liable for meeting the treatment standards, so that if it disposes of a waste that does not meet a treatment standard, it is in violation of the land disposal restrictions regulations. If the facility complied with its waste analysis plan, it would not be in violation of the waste analysis plan provisions. Put another way, a waste analysis plan cannot immunize facilities from the land disposal requirements for prohibited wastes, although such plans may be written to authorize types of sampling and monitoring different from those used to develop the treatment standard(s).

If a waste analysis plan were to authorize a different mode of sampling or monitoring, there would need to be a demonstration that the plan (and the specific deviating feature) is adequate to assure compliance with Part 268 (see 40 CFR 264.13(a)). This might require, for example, a demonstration of statistical equivalence between a composite sampling protocol and one based on grab sampling, or a demonstration of why monitoring for a subset of pollutants would assure compliance of those not monitored. EPA repeats that enforcement of the rule is based on the treatment standard, not the facility's waste analysis plan, so that enforcement officials would normally take grab samples and analyze for all constituents regulated by the applicable treatment standard.

Summary of Comments

Several commenters (Chemical Manufacturers Association (CMA) (034), Olin Chemicals (061), Amoco Corporation (L003), and API (042)) supported EPA's decision to allow the generator to use his/her knowledge of a waste to determine whether it exceeds the applicable treatment standards. Amoco interpreted this clarification to include the generator's knowledge of any method used by the generator to treat the waste. API and Olin Chemicals also expressed strong support for relying on the generator's knowledge of the waste as an alternative to exhaustive testing to determine which wastes meet BDAT standards.

The Hazardous Waste Treatment Council (031) opposed EPA's provision enabling a generator to use knowledge of the waste to determine compliance with treatment standards. HWTC asserted that it is hard to imagine how a generator using only general process knowledge could accurately certify that certain hazardous constituents that are in the parts-per-billion (ppb) range do not exceed treatment standards. HWTC maintained that analytical determinations are required to certify and verify that a waste meets a treatment standard. HWTC further argued that the generator should be required to analyze the waste once each year to ensure that process changes have not altered the levels of BDAT constituents.

Agency Response

This issue is not reopened for comment in this rulemaking. The issue has been raised in the solvents and dioxins rule and California list rule litigation. EPA in this rulemaking simply corrected an inadvertent error in the First Third final regulation that implied, incorrectly, a change in Agency position.

12. RECORD-KEEPING

Summary of Comments

The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) (L009) asked EPA to develop a certification form for use by generators and treatment companies. The commenter stated that the Agency has estimated that approximately 80 percent of land disposal restriction violations occur in the area of certification by generators and treatment companies, and that, therefore, existing certification forms prepared by disposal companies appear to be inadequate. Another suggested alternative was to provide the regulated community with a critique of a few existing forms, if development of an EPA form is too difficult.

Agency Response

EPA is willing to work with the regulated community on an informal basis to evaluate the adequacy of existing certification forms. Certification violations, however, may also be attributable to other causes, such as improper listing of waste codes, or failure to identify appropriate treatment standards.

13. STORAGE ISSUES

Summary of Comments

Waste Management, Inc. (041) requested that EPA specify that the storage prohibition contained in 40 CFR 268.50 does not apply to restricted wastes that have been treated and are awaiting verification of analytical results. Waste Management stated that the legislative history of 40 CFR 268.50 does not prohibit storage of treatment residuals. The commenter asserted that 40 CFR 268.50 allows the storage of prohibited wastes in tanks or containers if the sole purpose is to accumulate sufficient quantities of waste in order to facilitate proper recovery, treatment, and disposal. Waste Management stated that the storage of treatment residuals is a type of storage necessary for disposal to comply with the land disposal restrictions.

Agency Response

EPA believes that this issue is better dealt with in the context of specific circumstances, and has contacted the commenter directly to verify precise facts.

Summary of Comments

Waste Management, Inc. (041) further noted that the land disposal restrictions do not acknowledge that wastes stabilized at land disposal facilities typically undergo post-treatment analysis before being land disposed, and that the stabilized residuals must be stored while analytical results are verified. The commenter stated that facilities that conduct both treatment and disposal need a greater understanding of whether post-treatment testing is required, and if so, where and how the residuals may be stored pending analysis. Waste Management suggested that the Agency reaffirm its position that an owner/operator of a hazardous waste management facility generates residuals when it treats hazardous wastes, and thus is subject to applicable provisions of Part 262 (Standards Applicable to Generators of Hazardous Waste), and may therefore accumulate residuals for 90 days provided the applicable sections of 40 CFR 262.34 (Accumulation Time) are satisfied.

Agency Response

This is an interpretive issue not totally related to the land disposal prohibition rules, and certainly not part of this rulemaking. The Agency accordingly will address the question in a different forum.

14. REQUESTS FOR EXTENSION OF COMMENT PERIOD

Summary of Comments

The Chemical Manufacturers Association (034) and Monsanto Company (019) stated that the comment period for this rule should have been extended, and that their earlier requests for such an extension were refused by the Agency. The commenters stated that the docket was incomplete at the time of proposal and closed to the public for one week during the comment period. Both commenters further asserted that as a result, the time available for them to review the rule and subsequently develop their comments was foreshortened and inadequate. In addition, UOP (008) requested that the comment period be extended by 90 or, preferably, 120 days to allow all interested parties an opportunity to comment while still providing the Agency with sufficient time to promulgate a final rule.

Agency Response

In a letter dated February 23, 1989, responding to Mr. D. B. Redington of the Monsanto Company, EPA addressed the concerns expressed by the commenters. Specifically, the Agency stated that:

- An official extension of the comment period could not be granted because of the statutory deadlines imposed by the Hazardous and Solid Waste Amendments of 1984;

- The Agency would make every possible effort to consider any comments received within a reasonable time after the close of the comment period; and

- The key background documents mentioned by Monsanto were available for review both from the RCRA Docket and from staff within the Office of Solid Waste.

The Agency would like to add that all late comments received in response to the Second Third proposal have been addressed in the Agency's Response to Comments. Further, the comments received from the above-referenced commenters do refer to information contained in the background documents, indicating that ample time was available for review of the background documents and preparation of comments. The Agency also notes that Agency personnel were available to provide information to members of individual companies, prior to the Second Third proposal, and did in fact have discussions with industry regarding the following wastes: K009, K010, K011, K013, and K014.

Finally, the Agency would like to reiterate that, with the exception of some generic technology discussions, all Background Documents were available in the Docket or from OSW staff for review within one day after signature of the Second Third proposal.

Summary of Comments

Stauffer Chemical Company (045) noted that it would be submitting additional comments on characteristic wastes and P and U wastes after the close of the comment period but before July 1989. Stauffer noted that EPA has indicated that because these comments concern wastes to be included in the Third Third, the comment period would remain open.

Agency Response

The Agency will respond to comments on Third Third Wastes received in response to the Second Third proposed rule in the Third Third rulemaking.

15. LAB PACKS

15.1 General

Summary of Comments

Several commenters (American Chemical Society (009), Eastman Kodak (059) Hazardous Waste Treatment Council (HWTC) (031), SOCMA (020), Peter Ashbrook (046), American Petroleum Institute (042), Browning-Ferris Industries (029), and Cyanamid (037)) expressed concern about how the land disposal restrictions affect the disposal of laboratory wastes and lab packs.

HWTC, Browning-Ferris, and Peter Ashbrook commented that the administrative requirements for lab packs under the land disposal restrictions are a burden. The term "lab pack" is a generic name for the consolidation of small containers of waste laboratory reagents and/or residuals into a larger container. Three areas are burdensome for the treatment of these wastes: the paperwork quantity (including "soft hammer" demonstrations), correct assignment of EPA waste codes, and analysis and certification paperwork for many waste codes. These commenters stated that the administrative burden associated with the small volumes outweighs the protection the controls offer.

Peter Ashbrook, American Petroleum Institute, and American Chemical Society expressed concern that this paperwork burden will increase with the restriction of additional P and U wastes.

Agency Response

The Agency is not changing its position in the Second Third final rule with regard to lab packs; the Agency maintains that these wastes cannot be exempt from the statutory requirements, since the plain language of the statute includes them. However, in the final rule, the Agency is soliciting further comment and data on issues associated with lab packs and will evaluate how the administrative burden for lab packs might be relieved. Specifically, the Agency is soliciting data and specific suggestions supporting treatment options for lab packs and modifications to the notification and certification requirements. The Agency is sympathetic to the concerns voiced by the commenters, but lacks the time and resources (given the pressing statutory deadlines) to take action in this rulemaking, particularly when no clearly acceptable approach is now apparent.

Summary of Comments

Peter Ashbrook (046) and the American Chemical Society (009) noted that treatment for lab packs is becoming more costly and difficult to locate. Peter Ashbrook commented that last year 5 percent of the wastes generated by the University of Illinois at Urbana-Champaign were disposed of as lab packs, but lab packs accounted for 40 percent of the disposal costs. The American Chemical Society stated that permitting and logistical difficulties limit the number of facilities that will accept laboratory quantities of chemicals. SOCMA (020) stated that recycling is not a practical method of treatment for lab packs because of the small quantities and mixtures disposed of in lab packs.

Agency Response

EPA has determined that there is adequate treatment capacity available at the national level for the treatment of Second Third wastes (except for soil and debris contaminated with Second Third wastes for which BDAT is incineration and for Second Third wastes that are underground injected). Generators who dispose of lab packs, therefore, must comply with the Second Third treatment standards and other restrictions.

Summary of Comments

The American Chemical Society (009) stated that managing lab pack wastes presents a safety and health hazard because the individual containerized wastes are opened and drained for treatment.

Agency Response

EPA believes that the promulgated treatment standards for the Second Third wastes are protective of human health and the environment. Not treating these wastes to their respective treatment standards prior to disposal may have serious effects on human health and the environment. Therefore, EPA is not amending the restrictions on laboratory wastes and lab pack disposal at this time.

15.2 Treatment Standards

Summary of Comments

SOCMA (020) requested that EPA develop separate treatment standards for lab packs. SOCMA stated that the use of treatability variances for lab packs may not be viable for small companies because they do not have the expertise or resources to apply for a treatability variance.

Agency Response

As discussed in the first Agency response in section 15.1, EPA is soliciting data and specific suggestions in the Second

Third final rule to support treatment options for lab packs, and modifications to the notification and certification requirements.

Summary of Comments

The American Petroleum Institute (042) and Dow Chemical (048) recommended that a specified technology be established as the treatment standard for lab packs. API is concerned that it would be difficult to promulgate specific numerical standards for the disposal of lab packs because they frequently contain many small containers of different reagents. API stated that commercial hazardous waste incinerators frequently manage lab packs and are aware of those wastes that should be prohibited from incineration.

Dow Chemical stated that the presence of free liquids in lab packs eliminates the option of landfilling the wastes, while their physical make-up eliminates technologies such as biological treatment and carbon adsorption. Dow stated that the only viable treatment technology is incineration.

Eastman Kodak (059) stated that P and U wastes exist in many forms including lab wastes and, because generation is sporadic and unpredictable, use of treatment standards expressed as waste or waste extract concentrations is not practical. The commenter asserts that although these wastes are not normally land disposed, their treatment residues are, and it is important that these residues not be prohibited from land disposal. As an alternative, Eastman Kodak recommends using a treatment standard expressed as a specific technology.

Agency Response

The Agency has no data indicating that lab packs cannot be treated to the same extent as other wastes; therefore, wastes contained in lab packs must comply with Second Third treatment standards and other restrictions. In the Second Third final rule the Agency is requesting data to support treatment options for lab packs.

Summary of Comments

The American Petroleum Institute (042) stated that the final regulations should preserve the use of all legitimate recycling and reuse capabilities. API further commented that continued use of a wastewater treatment option should be encouraged through the preservation of the "solvent exclusion."

Agency Response

In setting concentration levels as the treatment standards for most restricted wastes, the Agency allows the use of any treatment technology (except prohibited methods, such as dilution) to achieve the treatment standards. The Agency encourages all legitimate recycling and reuse efforts.

Summary of Comments

The Hazardous Waste Treatment Council (031) supports the transfer of treatment standards for P and U wastes using levels already established for BDAT constituents in other F and K wastes. HWTC stated that this will simplify the administrative burden for lab packs containing P and U wastes.

Agency Response

EPA believes that transferring treatment performance data to establish treatment standards for untested wastes or constituents is technically valid when the untested wastes are generated from similar industries and/or similar processing steps or when the constituents have similar chemical and physical properties. Transfer of treatment standards to wastes from similar processing steps requires little formal analysis because of the likelihood that similar production processes will produce a waste matrix with similar characteristics.

Summary of Comments

Several commenters (Department of Energy (028), Cyanamid (037), and the Institute of Chemical Waste Management (030)) requested an exclusion from the land disposal restrictions for lab packs. The Department of Energy (028) requested that an exclusion from the treatment standards be made for small quantities of all First, Second, and Third Third P or U wastes and for equipment and containers that have residual P or U wastes left in them.

Cyanamid stated that lab packs should be given an exclusion that allows continued disposal in facilities meeting minimum technology requirements. The Institute of Chemical Waste Management suggested that such an exclusion would reduce the certification/demonstration requirement but not the need to manage in a Subtitle C facility, and alleviate the temptation to dump the contents down the drain rather than comply with the rule.

The American Chemical Society (009) urged an exemption from Part B permit requirements for laboratories, allowing them to treat in-house up to five gallons of a chemical waste to render it non-hazardous or non-regulated. Peter Ashbrook (046) also suggested allowing generators to treat such wastes on-site without obtaining a Part B permit.

Agency Response

As discussed previously in this section, the Agency is not changing its position with regard to lab packs; therefore, the disposal of lab pack wastes must comply with existing permit requirements and land disposal restrictions. The Agency maintains that these wastes cannot be exempt from the statutory requirements, since the plain language of the statute includes them, and there is no indication in the legislative history to exclude them from the land disposal restrictions if they contain restricted wastes.

15.3 Record-keeping

Summary of Comments

Browning-Ferris Industries (029), the Hazardous Waste Treatment Council (031), and Ross Environmental Services (L005) offered suggestions for simplifying implementation of the land disposal restrictions for lab packs. Browning-Ferris requested that EPA simplify the land ban requirements for lab packs by establishing a maximum container size that could be included in a lab pack, as well as establishing a protocol for identifying the highest volume and most toxic waste codes in a lab pack for the purpose of treatment and record-keeping.

The Hazardous Waste Treatment Council (031) and Ross Environmental Services, Inc. (L005) requested that EPA require only the three largest volume, highest toxicity waste codes in a lab pack shipment be assigned to the entire lab pack. In this way, the more toxic BDAT constituents would still be tested as performance standards to ensure proper and complete treatment. Less toxic constituents in lower volume would meet the required performance levels if the more concentrated higher volume waste code constituents are treated to their BDAT levels. The paperwork and certification requirements would be greatly simplified. HWTC requested that the maximum container size for a container in a lab pack be defined as in 49 CFR 173.12.

Agency Response

As discussed previously, the Agency is not changing its position on lab packs in the Second Third rule. With respect to means of easing the administrative burden on lab packs, the Agency is sympathetic to the concerns voiced, but lacks the time and resources (given the pressing statutory deadlines) to take action in this rulemaking. The Agency appreciates the suggestions offered by the commenters, and will consider them in more detail. In addition, the Agency is requesting additional specific suggestions and data in the Second Third final rule.

16. RELATIONSHIP TO PCB REQUIREMENTS

Summary of Comments

The Utility Solid Waste Activities Group (USWAG) (025) stated that hazardous wastes containing PCBs should not be subject to the land disposal restrictions. USWAG stated that subjecting these wastes to both the RCRA and TSCA PCB requirements creates compliance problems and legal complications. For example, USWAG noted that PCB transformers that are flushed with solvents and then drained contain residual PCBs and hazardous waste. The transformer carcass must be disposed of in a chemical waste landfill under TSCA, while under the RCRA land disposal restrictions it is banned from land disposal. As a result, such transformers are "orphan wastes that cannot be legally managed under both sets of regulations." After a survey of its members, USWAG identified seven other wastes that may be subject to these dual requirements (e.g., PCB-contaminated gas condensate from gas lines).

Agency Response

The Agency recognizes that certain RCRA hazardous wastes that contain PCBs are subject to regulation under both the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act (TSCA). The PCB component of such a waste mixture is regulated primarily under TSCA, whereas the hazardous component of the waste is regulated under RCRA (See 45 FR at 33086; May 19, 1980). A hazardous waste containing PCBs must meet the applicable requirements under both statutes. Indeed, Congress designated certain PCB wastes as RCRA California list hazardous wastes, thus specifically subjecting these wastes to dual jurisdiction (see RCRA section 3004(d)). Such a waste must go to an incinerator permitted under both TSCA and RCRA. Any ash residue must meet the treatment standard for the hazardous waste component prior to land disposal. The Agency does not believe that complying with both statutes imposes an unreasonable burden on owner/operators.

17. RELATIONSHIP TO SPECIAL WASTES

Summary of Comments

The Idaho Mining Association (018) expressed concern that wastes generated by the phosphorous industry may be subject to RCRA land disposal restrictions if their current exemption under the Bevill Amendment is removed, and asserted that EPA should conduct a coordinated review of waste management issues facing the industry in order to avoid hasty decisions and ill-considered interactions between the two regulatory programs. The commenter stated that if the exclusion provided by the Bevill Amendment was ultimately eliminated for any of the industry's waste, and if any wastes generated by the industry were deemed to be characteristic hazardous wastes, then the Agency would have to make a land disposal restrictions/BDAT determination within six months. The Idaho Mining Association noted that there is no automatic prohibition on wastes if EPA fails to meet the six-month deadline, and that other variances are available. The commenter urged the Agency to conduct a coordinated review that considers both the land disposal restrictions and Bevill Amendment programs. The commenter stated that if the Bevill Amendment determination eliminates the exclusion for any phosphorous industry waste streams, it should do so only in the context of identifying land disposal restrictions treatment standards.

Agency Response

The Agency appreciates the commenter's concerns about the potential impacts of various proposed and scheduled regulations and determinations on the phosphorous industry. As the commenter has pointed out, the April 17, 1989, proposed rule (54 FR 15316) could narrow the mining waste exclusion, potentially subjecting additional mineral processing wastes to Subtitle C controls including any applicable land disposal restrictions requirements.

EPA contends that it is not making decisions pertinent to the land disposal restrictions program and the Bevill Amendment determinations in isolation. In the April 17, 1989, proposed rule concerning the mining waste exclusion, EPA included a separate section (54 FR 15345) acknowledging that one future implication of the proposal is that wastes brought into the Subtitle C system will be subject to land disposal restrictions standards.

The Agency does not agree that it should establish land disposal restrictions treatment standards and Bevill waste determinations in a parallel fashion or eliminate Bevill waste exclusions only in the context of identifying a land disposal restrictions treatment standard, as the commenter suggests. The Agency is directed to make land disposal restrictions determinations for all hazardous wastes within statutory deadlines, and land disposal restrictions requirements are an integral part of the Subtitle C program. As evidenced in the April 17, 1989, proposed rule, this fact is considered in the Agency's Bevill Amendment decisions concerning whether or not Subtitle C regulation is appropriate for any Bevill wastes. The mechanisms of national capacity variances, case-by-case extensions, no-migration exemptions, and variances exist in the land disposal restrictions program for remedying practical problems that arise in the application of land disposal restrictions treatment standards.

The Agency would like to note that some of the commenter's specific points are not relevant to the Second Third rulemaking. Comments on defining the scope of the Bevill exclusion with respect to mineral processing wastes will be addressed in the process of the Bevill Amendment determinations.

18. CONTAMINATED EQUIPMENT AND DEBRIS

Summary of Comments

Several commenters (HSIA (051), Vulcan Chemicals (036), Reilly Industries (062), BP America (012), and the Hazardous Waste Treatment Council (031)) addressed the Agency's proposal to specify a treatment technology for contaminated equipment or debris rather than setting a numerical standard. HSIA and Vulcan Chemicals believed that EPA's approach may be reasonable, but could not support or oppose it without further information. The proposed rule referred to a detailed discussion of this issue, but the commenters were unable to locate the discussion.

HWTC, Reilly, and BP America stated that they support specifying a method of treatment for contaminated equipment or debris. HWTC also supported specifying a method where a numerical standard is not feasible because of analytical complications.

Agency Response

Two of the commenters identified above could not identify the "detailed discussion" regarding EPA's rationale to specify a treatment technology (54 FR 1088). The Agency in section III.A.9.a.(2) on analytical complications provided further clarification of its rationale. Since no proven analytical methods for the measurement of trace quantities of P and U wastes either in environmental samples or treatment residues are available, no quantitative determination can be made. In addition, the Agency also pointed out that many P and U wastes either react or degrade with water or bleaching solutions preventing the direct measurement of the P and U constituents either in treatment residues, contaminated soil and debris, or contaminated equipment. Hence, the Agency's consideration of a method of treatment as a treatment standard for contaminated equipment or debris.

Summary of Comments

BP America (012) supported the use of a treatment method as BDAT for contaminated equipment for P and U wastes. BP America stated that after this treatment method, if it is equivalent to triple rinsing of the equipment, the equipment should no longer be considered hazardous and should be allowed to be reused.

Agency Response

This issue has more to do with questions of when contaminated equipment is a hazardous waste, and the relationship of 40 CFR 261.7 to devices that are not containers, than to any specific issue. Also, the inquiry may turn on specific facts which are not mentioned in the comment. EPA is therefore reserving a response at this time.

Summary of Comments

Dow Chemical Company (048) concurred with EPA's proposal in section III.A.9 to establish a technology standard for contaminated equipment. Dow suggested that, where possible, "side-by-side" standards should be promulgated.

Agency Response

The Agency disagrees with the suggestion to develop "side-by-side" standards, where possible. In the case of contaminated equipment, this approach is not applicable at this time because EPA has not yet identified a specific technology as a treatment standard. In addition, as stated in section III.A.9.a.(2) of the preamble, the lack of appropriate analytical methods and the potential for reaction with any degradation of P and U constituents in water makes it difficult to select appropriate indicator parameters (i.e., reaction products) and their corresponding levels. Hence, development of "side-by-side" standards would not be feasible.

19. CONTAMINATED SOIL AND DEBRIS

Summary of Comments

Several commenters discussed management of contaminated soil and debris. Reilly Industries, Inc. (062) stated that generic treatment standards or technologies should be promulgated for contaminated soil and debris, because of common characteristics for treatment and disposal. Reilly claimed that generic treatment standards would improve compliance and reduce expenditure of industry and Agency resources on variance requests for varying waste streams. Reilly suggested that the proposed approach for equipment and debris should be expanded to include contaminated soil and debris.

Additionally, SOCMA (020) stated that the Agency should develop a generic treatment standard for all spill cleanup materials and contaminated soils and debris in order to facilitate cost-effective compliance when the two-year extension for such waste expires.

Eastman Kodak (059) stated that P and U wastes exist in many forms including contaminated soil from spills, and because generation is sporadic and unpredictable, use of treatment standards expressed as waste or waste extract concentrations is not practical. Under these circumstances it is difficult to perform waste analysis of treatment residues (e.g., incinerator ash, scrubber wastes) to demonstrate compliance with the treatment standards. The commenter asserts that although these wastes are not normally land disposed, their treatment residues are, and it is important that these residues not be prohibited from land disposal. As an alternative, Eastman Kodak recommends using a treatment standard expressed as a specific technology.

Agency Response

In general, EPA's preference is to establish treatment standards expressed as a concentration rather than a technology. EPA believes that this approach provides greater flexibility to the regulated community, allows cleanups to stay current with advances in technology, and allows use of cost-effective technologies. In setting the treatment standards, the Agency considered the issues addressed by the commenter, such as waste analysis problems, on a waste-specific basis.

EPA is currently investigating whether separate treatment standards should be established for all contaminated soil and debris as a separate treatability group. In the interim, soil and debris contaminated with restricted waste that does not have a national capacity variance must comply with the treatment standards for the contaminating waste. If the waste is unable to meet the standards, a treatability variance may be requested.

Summary of Comments

The American Iron and Steel Institute (033) asserted that the Agency should establish an exclusion for soil and debris contaminated with listed wastes, including the cyanide wastes, because these materials are not amenable to treatment to meet the BDAT treatment standards. The commenter suggested that the Agency establish a *de minimis* exception for these materials because they contain a high percentage of inert material (and thus are not amenable to treatment), represent a small fraction of the total amount of waste generated, and do not present a problem to human health or the environment.

Agency Response

The Agency does not agree with the commenter that contaminated soil and debris is a small volume of waste and does not present a potential problem to human health or the environment. In addition, EPA believes that contaminated soil and debris can potentially contain hazardous quantities of wastes requiring treatment. The Agency understands that some contaminated soil and debris will contain materials that may interfere with achieving treatment standards developed for the contaminating waste, as generated. As mentioned above, the Agency is currently investigating whether separate treatment standards should be established for all soil and debris as a separate treatability group. The Agency is also evaluating a de minimis approach that would amend the definition of hazardous waste by establishing self-implementing concentration and risk-based exemption levels for hazardous constituents in listed wastes. The effect of this rule, if finalized, will be that listed wastes and contaminated environmental media (e.g., soil and ground water) that contain the constituents identified and are below the exemption levels will no longer have to be managed as hazardous wastes, unless they are solid wastes that exhibit a characteristic. The Agency anticipates that the rule will be proposed in the Fall of 1989.

20. UNDERGROUND INJECTION CONTROL

20.1 Setting Effective Dates Prior to May 8, 1990

Summary of Comments

Four commenters (Sterling Chemicals (026), BP America (012), AN UIC Group (032), and CMA UIC Task Group (027)) took issue with the Agency's decision to set effective dates for the ban against the underground injection of certain section 3004(g) wastes before the May 8, 1990 "hard hammer" falls. They argue that May 8, 1990 is the only deadline imposed by Congress with respect to deep well injection of section 3004(g) wastes. The First Third and Second Third "soft hammer" dates, they say, lead to no interim restrictions on deep well injection if EPA fails to make effective date determinations for wastes under these scheduled dates. Furthermore, the AN UIC Group and the CMA UIC Task Group note that "The Statute authorizes the Administrator to promulgate prohibitions on the land disposal of wastes by certain methods while deferring prohibitions on the land disposal of the same wastes by other methods." Finally, these same two commenters believe that the Agency must first make site-specific determinations of protectiveness before banning underground injection, with the CMA UIC Task Group stating that "...without making appropriate [site-specific] determinations, the Agency is accomplishing only half of its statutory mission, while at the same time compromising its ability to complete the other half -- the making of appropriate and timely determinations."

Agency Response

EPA first addressed these concerns in a forthcoming (June 1989) promulgation, noting that RCRA §3004(g)(5) mandates that the Agency shall prohibit land disposal of the scheduled hazardous wastes "...except for methods of disposal which the Administrator determines will be protective of human health and the environment...." EPA believes that, if possible, the UIC ban should be completed according to the schedule established in §3004(g)(6), a schedule based on intrinsic hazard and volume. This ban should be promulgated unless protection is shown. Pursuant to Part 148, protection may be shown only in a site-specific fashion. The Agency is in the process of determining which injection sites will be protective of human health and the environment. Until successful petitions have been demonstrated, EPA believes that the most prudent action is to ban the underground injection of waste unable to meet the BDAT treatment standards. The dual nature of this implementation ensures that the most appropriate, timely, and environmentally sound determinations will be made. However, as explained elsewhere in this record, EPA is interpreting section 3004(h)(2) so that national capacity variances date from EPA's issuance of a prohibition, not the "soft hammer" effective date.

20.2 Capacity Variance "Anchor" Dates

Summary of Comments

Six commenters (Sterling Chemicals (026), AN UIC Group (032), CMA UIC Task Group (027), CMA (034), Cyanamid (037), and Monsanto (019)) believed that the Agency should anchor capacity variances for First Third wastes addressed in today's rule not from August 8, 1988, as proposed, but rather from the date of promulgation of this rule. They argued that any national capacity variances for UIC wells should begin on a date set by regulation after promulgation of a BDAT treatment standard for that waste. Such a decision, they say, is most consistent with section 3004(g) which places no statutory prohibitions on disposal into UIC wells until May 8, 1990.

Agency Response

The Agency now agrees with this position, and articulated it in a forthcoming (June 1989) rule. In brief, under section 3004(h)(2), EPA "may establish an effective date different from the effective date which would otherwise apply under subsection (d), (e), (f), or (g)..." given certain findings concerning national treatment or disposal capacity. "Any such other effective date shall in no event be later than 2 years after the effective date of the prohibition which would otherwise apply under subsection (d), (e), (f), or (g)" (RCRA §3004(h)(2)). It is the Agency's position that "the effective date of the prohibition which would otherwise apply" for underground injection of section 3004(g) wastes is one established by regulation (or May 8, 1990, whichever comes first). All capacity variances shall stem from these dates. The Agency proposed to grant capacity variances until August 8, 1990 for the F007, K011, K013, and K014 First Third waste codes. As a result of both the above decision and new information received by EPA, today's rule grants a capacity variance until June 8, 1991 for the F007, K011 (nonwastewaters), and K013 (nonwastewaters) First Third wastes. The Agency is not setting treatment standards for K011 (wastewaters), K013 (wastewaters), and K014 (wastewaters). They remain under the effect of the "soft hammer."

20.3 Agency Flexibility to Terminate Variances when Adequate Alternative Treatment Capacity Becomes Available

Summary of Comments

Three commenters (CMA (034), AN UIC Group (032), CMA UIC Task Group (027)) expressed concern with the proposed preamble language that indicated capacity variances for underground injected wastes would last until August 8, 1990, or until capacity becomes available, whichever is earliest [emphasis added]. They believed that a surge of available capacity and a resultant variance rescindment would not allow adequate time for operator compliance.

Agency Response

Section 3004(h)(2) allows a capacity variance until "...the date on which adequate alternative treatment, recovery, or disposal capacity ..." will be available. This date shall be no later than two years after the effective date of the prohibition which would otherwise apply. While EPA believes that this section allows the Agency to rescind a promulgated capacity variance in the event adequate alternative treatment capacity becomes available, such a decision will not be made without adequate forewarning to the regulated community in compliance with applicable requirements of the Administrative Procedure Act.

20.4 Comments on Waste-Specific Effective Dates

Summary of Comments

One commenter (Hoechst Celanese (015)) supported the proposed capacity variances for K009 and K010.

Agency Response

At the time of proposal, the Agency had information indicating that 108 million gallons of K009 and K010 wastes were being annually injected. EPA proposed variances for these waste codes because of lack of alternative treatment capacity, although EPA solicited any information on the types, characteristics, and quantities of other K009 and K010 wastes being injected. Data received since then indicate that approximately 79 million gallons of K009 wastewaters, and approximately 5 million gallons of K010 nonwastewaters are being annually injected. The treatment standard for K009 wastewaters is based on steam stripping followed by biological treatment. The treatment standard for K010 nonwastewaters is based on incineration. The best information available to the Agency indicates that 0 gallons of steam stripping and/or biological treatment capacity exist, while 281 million gallons of liquid incineration capacity exist. Consequently the Agency is today granting a two-year capacity variance to K009 wastewaters. EPA is therefore banning the underground injection of all K010 wastes and K009 nonwastewaters on June 8, 1989. Adequate capacity exists to treat the 5 million gallons of injected K010 nonwastewaters, and K009 nonwastewaters and K010 wastewaters are not being injected.

20.5 Treatment Standards as Applicable to Underground Injected Wastes

Summary of Comments

Two commenters (AN UIC Group (032), CMA UIC Task Group (027)) expressed concern with the applicability of certain proposed treatment standards to underground injected wastes. They believed that the Agency has used "unsound statistical methods" and "transfers of technology from dissimilar wastes" to establish BDAT.

Agency Response

This issue is more appropriately addressed with other treatment technology concerns in Volume 2 of this Response to Comment document. On a more general level, the Agency believes that underground injected wastes differ from surface disposed wastes only in terms of quantities disposed of, not in chemical or physical composition. The commenter has shown no technical basis for applying different treatment standards to surface disposed versus underground injected wastes.

20.6 Industry's Ability to Develop Treatment Capacity

Summary of Comments

A number of commenters (CMA (034), AN UIC Group (032), CMA UIC Task Group (027), BP America (012)) opined that, even with a two-year treatment capacity variance, many operators would not be able to complete construction of on-site treatment units. They indicated that it would take two to three years for the planning and installation of units that could treat the amount of waste generated at their facilities.

Agency Response

The intent of RCRA, in part, is to shift waste management practices away from disposal and towards treatment. When the Agency establishes treatment standards for a particular waste, and then examines alternative capacity for that particular type of treatment, it is obligated to act as expeditiously as possible in setting an effective date for banning the disposal of that waste code. The treatment capacity variance is a regulatory option that the Agency can apply to grant up to two additional years from a BDAT/alternative capacity decision date to allow adequate treatment capacity to "come on line." EPA must follow the intent of the law and work within the legal parameters of the statute in implementing this program.

20.7 Capacity

Summary of Comments

Two commenters (CMA UIC Task Group (027), CMA (034)) believed that the Agency should defer setting any UIC effective dates until it takes into account the final decision on submitted no-migration" petitions. They argue that by waiting, EPA will have a clearer picture on the final amounts of injected waste (i.e., wastes that are not disposed of at a facility with an approved no-migration petition) vying for treatment.

Agency Response

This logic is faulty, and the following analogous arguments could lead to the same conclusion (i.e., "The Agency shouldn't set effective dates at this time because the final amounts of waste requiring treatment, and the amount of treatment capacity available, are still changing"): (1) deferring any action because new treatment facilities are currently being built; (2) deferring any action because some generators are closing in the face of RCRA treatment and/or no-migration requirements; and (3) deferring any action because the Agency will add new wastes (and the resultant demand) to already established treatability categories when the Third Third rule is addressed. The spectrum of required and available capacity will always be changing. Hazardous waste generators, treaters, and disposers will choose to enter, stay, or leave the business for various reasons. The Agency believes that Congress enacted RCRA with the intention of eventually minimizing the generation and disposal of hazardous waste. This goal can only be achieved by a combination of scientific pragmatism and action. Wastes which are currently injected, and for which treatment capacity does not currently exist, will be granted variances. All other wastes with established treatment standards will be banned.

20.8 The Availability of Transportation

Summary of Comments

Three commenters (CMA UIC Task Group (027), CMA (034), AN UIC Group (032)) noted that in previous rules the Agency had included discussions on the limitations of transportation in moving hazardous wastes from the point of production to a commercial treatment facility. They indicated that they wanted the Agency to continue to consider these limits in effective date decisions made for the F007, K011, K013, and K014 waste codes.

Agency Response

In previous rules, the Agency has taken into consideration the availability of transportation. EPA believes those arguments are only valid, however, in situations where very large volumes of waste need to be moved. No such situations exist in today's rule.

Also, EPA is granting a capacity variance for F007, K011 (nonwastewaters), and K013 (nonwastewaters). As such, these waste codes have no need for transportation capacity. EPA is deferring setting an effective date for K014 nonwastewaters. Finally, K011 (wastewaters), K013 (wastewaters), and K014 (wastewaters) are under the effect of the "soft hammer," and are not banned from underground injection. They, therefore, also have no need for transportation capacity.

21. APPLICABILITY OF "HARD HAMMER" TO CHARACTERISTIC WASTES

EPA indicated in the preamble to the proposed Second Third rule that it interprets section 3004(g) to include characteristic hazardous wastes within the scope of the statutory hard hammer (section III.A.10). A number of commenters challenged this interpretation based on their reading of the literal statutory language. There is no need for EPA to take a final position on this issue at the present time, since there are no characteristic hazardous wastes affected by the Second Third rule. In addition, the whole issue will be moot if EPA promulgates treatment standards for all of the characteristic hazardous wastes as part of the Third Third rule, which EPA presently plans to do. Therefore, the Agency has determined not to take a final position on this issue until the Third Third rule, and then to do so only if it proves necessary (i.e., if EPA for some reason should decide not to issue a treatment standard for one or more characteristic hazardous wastes).

22. OTHER ISSUES

Summary of Comments

The Department of Energy (028) noted that the current language of the Second Third rule implies that only First and Second Third mixed wastes (i.e., wastes that are both radioactive and RCRA hazardous) are postponed from applicable treatment standards and that any Third Third treatment standards promulgated in the Second Third rule could apply to mixed wastes on the effective date of this rule. DOE urged the Agency to clarify that any treatment standards finalized in the Second Third rule, including standards for Third Third wastes, will not affect mixed wastes.

Agency Response

The Agency wishes to clarify the land disposal restriction schedule for mixed waste (i.e., mixtures of hazardous and radioactive wastes). Based upon the Agency's understanding that relatively small volumes of mixed wastes are generated, the Agency decided to address mixed wastes as a single group during the Third Third rulemaking. Certain underground injection practices involving mixed wastes, however, will be prohibited. The Agency identified 60 waste codes in the rule for which underground injection would be prohibited effective June 8, 1989.

Mixtures of radioactive wastes and any of these 60 waste codes will be prohibited. All other mixed wastes will be addressed in the Third Third rule.

Summary of Comments

Dow Chemical (048) suggested that EPA develop appropriate, site-specific land disposal restrictions compliance programs for large, integrated facilities. Dow stated that because the treatment standards were based on the performance of treatment units handling a single waste stream, large facilities would be unable to comply with the standards. Dow also urged the Agency to develop new, streamlined variance procedures for large facilities and to promulgate permitting requirements covering RCRA and Clean Water Act (CWA) programs for these facilities on a site-specific basis.

Agency Response

The Agency has considered the commenter's arguments and wishes to clarify the use of the BDAT treatment standards for large facilities. In developing the BDAT treatment standard, the Agency intentionally based the standard on the performance of units handling a single waste stream. Effective treatment of all jointly treated compatible waste streams must be ensured, possibly through altering the conditions of the treatment unit.

In addition, steps must be taken to ensure that the treatment standards for individual components in the treatment residues are met. When treating multiple compatible waste streams simultaneously, large integrated facilities may have to add pre-treatment, post-treatment, or polishing steps. The primary objective of the treatment standards expressed as concentration levels is to allow flexibility in selecting a type of treatment, treatment conditions, and optional unit operations in a treatment train. Considering this flexibility, the Agency believes that large, integrated facilities can comply with the standards. If, under exceptional conditions, a large, integrated facility cannot meet the concentration-based levels, the established variance procedure could be exercised to obtain a site-specific variance.

Although the Agency understands the commenter's concerns regarding the conflicts experienced by large, integrated facilities regulated under both RCRA and CWA, EPA has determined that a case-by-case variance procedure is the most appropriate method of mediating conflicts. Through a site-specific variance, large integrated facility owners or operators may demonstrate to the Agency that adoption of a customized program of sampling, analysis, monitoring, certification, and permitting will best alleviate conflicts between duplicate RCRA and CWA testing, analysis, certification, and monitoring requirements. See also section 5.25 (Treatability Variances), section 8.2 (Separate Treatment Standards and Schedule for "Derived-From" Wastes), and

Response to Comments Related to the Second Third Wastes Treatment Technologies and Associated Performance, Volume 1, June 8, 1989.

Summary of Comments

The Chemical Manufacturers Association (034) urged EPA to distinguish between legitimate and improper mixing of wastes. The commenter expressed concern regarding the Agency's statements that any mixing that makes a particular waste stream more difficult to treat is suspect. CMA pointed out that in large manufacturing facilities, aggregation of mixed wastes is a normal management practice and is not meant to evade BDAT standards.

Agency Response

The Agency is aware of the industry practice of aggregating compatible wastes to meet unit capacity requirements for treatment units, to increase the heat content of wastes, or to adjust water or solid levels in wastes. EPA continues to be concerned, however, that mixing which results in making a particular waste stream more difficult to treat may be suspect. Mixing of non-compatible materials is a major concern to the Agency because of the potential for adverse effects to human health and the environment. (See also the preamble discussion on this point.)

Summary of Comments

The Hazardous Waste Treatment Council (L001) commented that the Agency must explicitly clarify in the final rule that mixtures of listed wastes that were themselves listed solely on the basis of a characteristic (e.g., F003 for ignitability) remain hazardous wastes and are subject to the land disposal restrictions even if the mixture no longer exhibits the characteristic for which it was listed. The commenter indicated that virtually all F003 wastes are currently diluted enough to raise the flashpoint above 140 degrees Fahrenheit, rather than treated to meet the numeric standards specified in the Solvents and Dioxins rule. The Hazardous Waste Treatment Council stated that the regulatory language of 40 CFR 261.3(a)(2)(iii) conflicts with the Agency's statement in the Second Third proposed rule regarding mixing (54 FR 1062).

The Hazardous Waste Treatment Council commented that the Agency has taken a strong stand in the Second Thirds preamble against dilution to avoid the land disposal restrictions, but appears to encourage dilution as a method of meeting the restrictions for the characteristic wastes. As an example, F003 listed wastes, which were listed solely because of a characteristic, must meet the treatment standards specified in the Solvents and Dioxins rule (November 7, 1986, 51 FR 40572), while a D001 ignitable solvent must only be "deactivated" (i.e., diluted) to meet the land disposal restrictions.

Agency Response

This issue is not presented in this rulemaking and does not require a response. EPA refers to the discussion at 51 FR 40592 (November 7, 1986). EPA also notes that the commenter is asking EPA to redefine when a waste is hazardous, based on treatability characteristics, something legally forbidden by the Hazardous Waste Treatment Council v. EPA (op. cit.) (used oil listing) decision of the D.C. Circuit Court.

Summary of Comments

The Chemical Manufacturers Association (034) opposed EPA's requirement that wastes subject to treatment variances be managed in land disposal units that comply with minimum technology requirements. CMA argued that this requirement defeats the purpose of a national capacity variance.

Agency Response

CMA's position has been repudiated by the D.C. Circuit Court in Mobil Oil v. EPA.

Summary of Comments

The Institute of Chemical Waste Management (030) suggested that compliance with treatment standards would be enhanced if standards for a particular constituent were the same for all waste codes containing that constituent. The Institute noted that EPA has provided no justification for such inconsistency between waste streams.

Agency Response

The Agency believes that there are in fact no inconsistencies between waste-specific treatment standards. The premise of the land disposal restrictions program is that each waste must be evaluated to determine the effective treatment and the corresponding reduction of hazardous constituents in the waste. RCRA wastes differ in physical and chemical composition and can be grouped into approximately 20 treatability groups. The extent of treatment and the final concentration of hazardous constituents in treated wastes, however, is a function of total waste composition and treatment process specific parameters. Therefore, concentration-based treatment standards for the same constituents in different waste streams generally will not be the same, unless the Agency determines that waste characteristics are similar.

Summary of Comments

ASTSWMO (L009) noted that under the current standards, land disposal restrictions do not apply unless a waste is lifted above ground (e.g., excavated). ASTSWMO argued that this rule encourages "pushing the waste around" rather than re-disposing the waste into units that meet RCRA design standards. Similarly, ASTSWMO stated that the proposed regulations encourage capping of emergency spills rather than cleanup of those spills, which would be more protective.

Agency Response

The Agency notes that the commenter is criticizing the statute (section 3004(k)), not the Agency's rules. The commenter correctly states that the land disposal restrictions do not apply to wastes currently land disposed until the waste is managed or placed on the land. If wastes are placed on the land, the land disposal restrictions apply. This result comes directly from the statutory language in section 3004(k).

Summary of Comments

Waste Management, Inc. (041) noted that EPA has proposed either incineration or fuel substitution as the treatment standard for seven listed wastes. Waste Management expressed concern that the Agency's use of the phrase "fuel substitution" suggests an implied equivalency with incineration and a relaxed regulatory scheme for special burning devices such as boilers and industrial furnaces (BIFs). Waste Management urged the Agency to reiterate and actively enforce its "sham recycling" policy, clarify that BIFs burning hazardous wastes for destruction (instead of energy recovery) are required to obtain a RCRA permit, and require that all residues generated from burning hazardous waste be regulated under Subtitle C, unless delisted. The commenter further stated that, at a minimum, the Agency must develop and implement an aggressive enforcement strategy to identify unscrupulous sham operators.

Agency Response

The Agency specified incineration or fuel substitution as the treatment standard for K027, K113 to K116, U221, and U223 nonwastewaters. EPA specified that incinerator burning of these wastes must meet the requirements specified in 40 CFR Part 264 Subpart O and Part 265 Subpart O. Similarly, using these wastes in boilers and industrial furnaces for fuel sources or burning for energy recovery must meet the requirements in 40 CFR Part 266. EPA does not prohibit the land disposal of treatment residuals from either incineration or "high temperature" fuel substitution units used to burn these wastes because the Agency believes that these treatment methods can substantially reduce the quantity of hazardous organic constituents in the wastes.

The Agency shares the commenter's concerns that "sham recycling" must be discouraged and actively enforces the RCRA waste management regulations.

Summary of Comments

The Five County Association of Governments (002) suggested that hazardous waste treatment be accomplished exclusively on-site to prevent leakage or spillage during transport.

Agency Response

The Agency understands the commenter's concern regarding leakage and spillage. RCRA statutory and regulatory requirements provide guidelines for waste transport and corrective action, particularly in instances of leakage or spillage during the transportation of hazardous waste. The Agency, however, does not have the authority to mandate that hazardous wastes may not be transported for off-site treatment.

Summary of Comments

The Five County Association of Governments (002) suggested inspections to ensure that generators do not switch from land disposal to illegal water or air discharges in order to avoid the costs of complying with the land disposal restrictions.

Agency Response

The RCRA permit process and the related compliance and enforcement requirements necessitate strict adherence to reporting and inspection procedures. The Agency believes that it would be unlikely that generators would successfully disregard land disposal restrictions and mismanage land disposal restricted wastes.

Summary of Comments

ASTSWMO (L009) objected to the lack of State input in developing the land disposal restrictions. ASTSWMO pointed out that State involvement could assist EPA in identifying problem areas of the regulation and urged the Agency to include State representatives in its work groups on the rule.

Agency Response

To date, EPA has promulgated four major rules implementing the land disposal restrictions (i.e., the schedule, solvents and dioxins, California list, and First Third). In each of these rulemakings, a proposed rule was published for public comment and the final rule incorporated input from interested parties. In several rulemakings, including the Second Third rule, State agencies submitted comments. Informal channels are also available to States to transmit comments and concerns about the land disposal restrictions program to Agency personnel.

Summary of Comments

ASTSWMO (L009) noted that Superfund procedures for sites on the National Priorities List have not been modified to reflect the land disposal restrictions and pointed out that most EPA and State Superfund staff are unaware of potential impact of the land disposal restrictions on the program.

Agency Response

The Agency is currently supporting a comprehensive effort to train and familiarize EPA and Superfund staff with the applicability and implementation of land disposal restrictions during Superfund cleanups. Similarly, EPA is conducting seminars and developing training courses and guidance to individuals involved in Superfund-related activities.

Summary of Comments

ASTSWMO (L009) requested clarification on the status of contamination of a site by small quantity generators if the contamination occurred prior to the enactment of RCRA.

Agency Response

The Agency notes that the issue raised by the commenter is not part of this rulemaking, and to the extent an answer is needed, will be addressed separately. As a courtesy, however, the Agency directs the commenter to the First Third final rule (53 FR 31149; August 17, 1988) where EPA stated that, although the rules are not explicit on this point, the small quantity generator exemption is viewed as applying cradle-to-grave, so that residues from managing the waste (e.g., leachate from historically managed waste) retain the exemption or exclusion. The First Third preamble stated that the "derived-from" rule is inapplicable to small quantity generator wastes, and 40 CFR 268.1(c)(4) states that the land disposal restrictions are not applicable to small quantity generator wastes (i.e., less than 100 kg/month of hazardous wastes or less than 1 kg/month of acutely hazardous wastes). Therefore, the "derived-from" and mixture rules do not apply to small quantity generators.

23. INDICES

23.1 List of Commenters -- by Commenter Number

LD1000001	Allied Signal, Inc., Engineering Materials Sector
LD1000002	Five County Association of Governments
LD1000003	State of New Jersey, Department of Environmental Protection
LD1000004	Exxon Chemical Americas
LD1000005	CyanoKEM, An American NuKEM Company
LD1000006	General Dynamics, Fort Worth Division
LD1000007	Corning
LD1000008	UOP
LD1000009	American Chemical Society
LD1000010	Rhode Island Department of Environmental Management
LD1000011	Environmental Systems Company (ENSCO)
LD1000012	BP America, Inc.
LD1000013	Heritage Environmental, Inc.
LD1000014	CyanoKEM, An American NuKEM Company
LD1000015	Hoechst Celanese Corporation
LD1000016	RSR Corporation
LD1000017	S-Cubed, A Division of Maxwell Laboratories, Inc.
LD1000018	Idaho Mining Association
LD1000019	Monsanto Company
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

LD1000021	Inco United States, Inc. and Inco Ltd.
LD1000022	Lubrizol Corporation
LD1000023	American Electroplaters and Surface Finishers Society
LD1000024	National Association of Metal Finishers (NAMF)
LD1000024A	PDC Laboratories, Inc. (for NAMF)
LD1000024B	Craftsman Plating and Tinning Corp. (for NAMF)
LD1000024C	Scientific Control Laboratories, Inc. (for NAMF)
LD1000025	Utility Solid Waste Activities Group et al.
LD1000026	Sterling Chemicals
LD1000027	Chemical Manufacturers Association
LD1000027A	Chemical Manufacturers Association
LD1000027B	Chemical Manufacturers Association
LD1000027C	Ad Hoc Acrylonitrile Producers UIC Group
LD1000028	United States Department of Energy
LD1000029	Browning Ferris Industries
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000031	Hazardous Waste Treatment Council (HWTC)
LD1000032	Ad Hoc Acrylonitrile Producers UIC Group
LD1000032A	Chemical Manufacturers Association
LD1000032B	Tischler and Kocurek, Environmental Engineers
LD1000032C	Ad Hoc Acrylonitrile Producers UIC Group
LD1000033	American Iron and Steel Institute
LD1000034	Chemical Manufacturers Association
LD1000035	Idaho Mining Association
LD1000036	Vulcan Chemicals

LD1000037	American Cyanamid Company
LD1000038	LPL Investment Group, Inc.
LD1000039	Chemical Manufacturers Association
LD1000040	Texas Eastman Company
LD1000041	Waste Management, Inc.
LD1000042	American Petroleum Institute
LD1000043	Merck and Co., Inc.
LD1000044	GSX Chemical Services, Inc.
LD1000045	Stauffer Chemical Company
LD1000046	Peter Ashbrook/University of Illinois
LD1000047	Inst. of Makers of Explosives (IME)
LD1000048	Dow Chemical Company
LD1000049	Hammond Lead Products, Inc. (HLP)
LD1000050	Secondary Lead Smelters Association, Inc. (SLSA)
LD1000051	Halogenated Solvents Industry Alliance
LD1000052	Rubicon, Inc.
LD1000053	Chlorine Institute, Inc.
LD1000054	Chlorine Institute, Inc.
LD1000055	State of New Jersey, Department of Environmental Protection
LD1000056	Confidential Business Information
LD1000057	Circle-Prosco, Inc.
LD1000058	Ford Motor Company
LD1000059	Eastman Kodak Company
LD1000060	Mobay Corporation, A Bayer USA Inc. Company
LD1000061	Olin Chemicals Corporation

LD1000062	Reilly Industries, Inc.
LD10L0001	Hazardous Waste Treatment Council
LD10L0002	BF Goodrich Company, Chemical Group, Convent Chemical Corp.
LD10L0003	Amoco Corporation
LD10L0004	United Technologies, Pratt and Whitney
LD10L0005	Ross Environmental Services, Inc.
LD10L0006	National Association of Metal Finishers
LD10L0007	Waste Management, Inc.
LD10L0008	Burroughs Wellcome Co.
LD10L0009	Assn. of State and Territorial Solid Waste Management Officials
LD10L0010	The Society of the Plastics Industry
LD10L0011	Ad Hoc Acrylonitrile Producers UIC Group
LD10L0012	National Association of Metal Finishers
LD10L0013	Monsanto Company
LD10L0014	PDC Laboratories, Inc.
LD10L0015	Ball, Zinc Products Division
LD10L0016	Craftsman Plating and Tinning Corp.
LD10L0017	Passaic Valley Sewerage Commissioners
LD10L0018	S-Cubed, A Division of Maxwell Laboratories
LD10L0019	American Electroplaters and Surface Finishers Society
LD10L0020	American Iron and Steel Institute
LD10L0021	Heritage Environmental Services, Inc.
LD10L0022	United States Department of Energy
LD10L0023	Ad Hoc Acrylonitrile Producers UIC Group

LD10L0024	Ford Motor Company
LD10L0025	CyanoKEM, An American NuKEM Company
LD10L0026	General Dynamics, Fort Worth Division
LD10L0026	Waste Management, Inc.
LD10L0028	United Technologies, Pratt and Whitney
LD10L0029	GSX Chemical Services, Inc.
LD10L0030	Michigan Association of Metal Finishers

23.2 List of Commenters -- Alphabetically

LD1000027C	Ad Hoc Acrylonitrile Producers UIC Group
LD1000032	Ad Hoc Acrylonitrile Producers UIC Group
LD1000032C	Ad Hoc Acrylonitrile Producers UIC Group
LD10L0011	Ad Hoc Acrylonitrile Producers UIC Group
LD10L0023	Ad Hoc Acrylonitrile Producers UIC Group
LD1000001	Allied Signal, Inc., Engineering Materials Sector
LD1000009	American Chemical Society
LD1000023	American Electroplaters and Surface Finishers Society
LD10L0019	American Electroplaters and Surface Finishers Society
LD1000033	American Iron and Steel Institute
LD10L0020	American Iron and Steel Institute
LD1000042	American Petroleum Institute
LD10L0003	Amoco Corporation
LD10L0009	Assn. of State and Territorial Solid Waste Management Officials
LD10L0015	Ball, Zinc Products Division
LD10L0002	BF Goodrich Company, Chemical Group, Convent Chemical Corp.
LD1000012	BP America, Inc.
LD1000029	Browning Ferris Industries
LD10L0008	Burroughs Wellcome Co.
LD1000027	Chemical Manufacturers Association
LD1000039	Chemical Manufacturers Association

LD1000034 Chemical Manufacturers Association

LD1000027B Chemical Manufacturers Association

LD1000027A Chemical Manufacturers Association

LD1000032A Chemical Manufacturers Association

LD1000053 Chlorine Institute, Inc.

LD1000054 Chlorine Institute, Inc.

LD1000057 Circle-Prosco, Inc.

LD1000056 Confidential Business Information

LD1000007 Corning

LD10L0016 Craftsman Plating and Tinning Corp.

LD1000024B Craftsman Plating and Tinning Corp. (for NAMF)

LD1000005 CyanoKEM, An American NuKEM Company

LD1000014 CyanoKEM, An American NuKEM Company

LD10L0025 CyanoKEM, An American NuKEM Company

LD1000048 Dow Chemical Company

LD1000059 Eastman Kodak Company

LD1000011 Environmental Systems Company (ENSCO)

LD1000004 Exxon Chemical Americas

LD1000002 Five County Association of Governments

LD1000058 Ford Motor Company

LD10L0024 Ford Motor Company

LD1000006 General Dynamics, Fort Worth Division

LD10L0026 General Dynamics, Fort Worth Division

LD1000044 GSX Chemical Services, Inc.

LD10L0029 GSX Chemical Services, Inc.

LD1000051 Halogenated Solvents Industry Alliance

LD1000049	Hammond Lead Products, Inc. (HLP)
LD10L0001	Hazardous Waste Treatment Council
LD1000031	Hazardous Waste Treatment Council (HWTC)
LD10L0021	Heritage Environmental Services, Inc.
LD1000013	Heritage Environmental, Inc.
LD1000015	Hoechst Celanese Corporation
LD1000018	Idaho Mining Association
LD1000035	Idaho Mining Association
LD1000021	Inco United States, Inc. and Inco Ltd.
LD1000047	Inst. of Makers of Explosives (IME)
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000038	LPL Investment Group, Inc.
LD1000022	Lubrizol Corporation
LD1000043	Merck and Co., Inc.
LD10L0030	Michigan Association of Metal Finishers
LD1000060	Mobay Corporation, A Bayer USA Inc. Company
LD1000019	Monsanto Company
LD10L0013	Monsanto Company
LD10L0006	National Association of Metal Finishers
LD10L0012	National Association of Metal Finishers
LD1000024	National Association of Metal Finishers (NAMF)
LD1000061	Olin Chemicals Corporation
LD10L0017	Passaic Valley Sewerage Commissioners
LD10L0014	PDC Laboratories, Inc.
LD1000024A	PDC Laboratories, Inc. (for NAMF)

LD1000046	Peter Ashbrook/University of Illinois
LD1000062	Reilly Industries, Inc.
LD1000010	Rhode Island Department of Environmental Management
LD10L0005	Ross Environmental Services, Inc.
LD1000016	RSR Corporation
LD1000052	Rubicon, Inc.
LD10L0018	S-Cubed, A Division of Maxwell Laboratories
LD1000017	S-Cubed, A Division of Maxwell Laboratories, Inc.
LD1000024C	Scientific Control Laboratories, Inc. (for NAMF)
LD1000050	Secondary Lead Smelters Association, Inc. (SLSA)
LD1000003	State of New Jersey, Department of Environmental Protection
LD1000055	State of New Jersey, Department of Environmental Protection
LD1000045	Stauffer Chemical Company
LD1000026	Sterling Chemicals
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.
LD1000040	Texas Eastman Company
LD10L0010	The Society of the Plastics Industry
LD1000032B	Tischler and Kocurek, Environmental Engineers
LD1000028	United States Department of Energy
LD10L0022	United States Department of Energy
LD10L0004	United Technologies, Pratt and Whitney
LD10L0028	United Technologies, Pratt and Whitney
LD1000008	UOP

LD1000025	Utility Solid Waste Activities Group et al.
LD1000036	Vulcan Chemicals
LD1000041	Waste Management, Inc.
LD10L0007	Waste Management, Inc.
LD10L0026	Waste Management, Inc.

23.3 Commenters by Issue Areas

2. TREATMENT STANDARD DEVELOPMENT

LD1000042 American Petroleum Institute

LD1000034 Chemical Manufacturers Association

LD10L0005 Ross Environmental Services, Inc.

LD1000016 RSR Corporation

3. TREATMENT STANDARDS EXPRESSED AS SPECIFIED TECHNOLOGIES VERSUS CONCENTRATIONS IN THE TREATED WASTE

LD1000048 Dow Chemical Company

LD1000044 GSX Chemical Services, Inc.

4. PROMULGATING STANDARDS FOR THIRD THIRD WASTES IN SECOND THIRD

LD1000034 Chemical Manufacturers Association

LD1000039 Chemical Manufacturers Association

LD1000004 Exxon Chemical Americas

LD1000019 Monsanto Company

LD1000026 Sterling Chemicals

5. VARIANCES FROM TREATMENT STANDARD

5.1 SOIL AND DEBRIS CAPACITY

LD1000034	Chemical Manufacturers Association
LD1000039	Chemical Manufacturers Association
LD1000059	Eastman Kodak Company
LD1000044	GSX Chemical Services, Inc.
LD1000061	Olin Chemicals Corporation
LD1000062	Reilly Industries, Inc.
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

5.2 TREATABILITY VARIANCES

LD1000048	Dow Chemical Company
LD1000058	Ford Motor Company

6. NO LAND DISPOSAL TREATMENT STANDARD

6.1 GENERAL COMMENTS

LD10L0003	Amoco Corporation
LD1000012	BP America, Inc.
LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company

LD1000044	GSX Chemical Services, Inc.
LD1000031	Hazardous Waste Treatment Council
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000019	Monsanto Company
LD1000061	Olin Chemicals Corporation
LD10L0005	Ross Environmental Services, Inc.
LD1000026	Sterling Chemicals
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

6.2 THE NO LAND DISPOSAL TREATMENT STANDARD IS UNLAWFUL

LD1000034	Chemical Manufacturers Association
LD1000031	Hazardous Waste Treatment Council
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

6.3 NO LAND DISPOSAL BASED ON RECYCLING

LD10L0003	Amoco Corporation
LD10L0009	Assn. of State and Territorial Solid Waste Management Officials
LD1000012	BP America, Inc.
LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company

LD1000031 Hazardous Waste Treatment Council

LD1000019 Monsanto Company

LD10L0005 Ross Environmental Services, Inc.

6.4 SHAM RECYCLING

LD1000031 Hazardous Waste Treatment Council

6.5 NO LAND DISPOSAL BASED ON NO ASH

LD1000034 Chemical Manufacturers Association

LD1000031 Hazardous Waste Treatment Council

LD1000019 Monsanto Company

LD10L0005 Ross Environmental Services, Inc.

6.6 NO LAND DISPOSAL BASED ON NO GENERATION

LD1000048 Dow Chemical Company

LD1000031 Hazardous Waste Treatment Council

LD1000060 Mobay Corporation, A Bayer USA Inc. Company

LD1000061 Olin Chemicals Corporation

LD10L0005 Ross Environmental Services, Inc.

6.7 "DERIVED-FROM"/MIXTURE RULES

LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company
LD1000031	Hazardous Waste Treatment Council
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000019	Monsanto Company
LD10L0005	Ross Environmental Services, Inc.
LD1000026	Sterling Chemicals
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

6.8 TREATABILITY VARIANCE PETITIONS

LD1000031	Hazardous Waste Treatment Council
LD10L0005	Ross Environmental Services, Inc.

6.9 DIFFICULTIES WITH DISPOSAL STEMMING FROM NO LAND DISPOSAL STANDARD

LD1000034	Chemical Manufacturers Association
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

6.10 NO LAND DISPOSAL STANDARDS FOR P AND U WASTES

LD1000012	BP America, Inc.
LD1000048	Dow Chemical Company

7. MANAGEMENT OF "SOFT HAMMER" WASTES

LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company
LD1000031	Hazardous Waste Treatment Council
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000028	United States Department of Energy

8. "DERIVED-FROM" RULE/WASTES

8.1 LEACHATE

LD1000037	American Cyanamid Company
LD1000042	American Petroleum Institute
LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company
LD1000059	Eastman Kodak Company
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.
LD1000041	Waste Management, Inc.

8.2 SEPARATE TREATMENT STANDARDS AND SCHEDULE FOR "DERIVED-FROM" WASTES

LD1000048	Dow Chemical Company
LD1000061	Olin Chemicals Corporation
LD1000028	United States Department of Energy
LD1000041	Waste Management, Inc.

8.3 APPLICATION OF THE "DERIVED-FROM" RULE

LD1000042	American Petroleum Institute
LD1000048	Dow Chemical Company
LD1000061	Olin Chemicals Corporation

8.4 IMPLICATIONS OF TREATMENT STANDARDS FOR "DERIVED-FROM" WASTES

LD10L0009	Assn. of State and Territorial Solid Waste Management Officials
LD1000048	Dow Chemical Company
LD1000060	Mobay Corporation, A Bayer USA Inc. Company
LD1000061	Olin Chemicals Corporation
LD1000041	Waste Management, Inc.

8.5 APPLICATION OF "DERIVED-FROM" RULE TO CONTAMINATED GROUND WATER

LD1000042	American Petroleum Institute

9. RETROACTIVITY

LD1000042	American Petroleum Institute
LD1000048	Dow Chemical Company

10. CAPACITY

LD1000042	American Petroleum Institute
LD1000012	BP America, Inc.
LD10L0005	Ross Environmental Services, Inc.

11. TESTING

LD1000042	American Petroleum Institute
LD10L0003	Amoco Corporation
LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company
LD1000031	Hazardous Waste Treatment Council
LD1000061	Olin Chemicals Corporation

12. RECORD-KEEPING

LD10L0009 Assn. of State and Territorial Solid Waste Management Officials

13. STORAGE ISSUES

LD1000041 Waste Management, Inc.

14. REQUESTS FOR EXTENSION OF COMMENT PERIOD

LD1000034 Chemical Manufacturers Association
LD1000019 Monsanto Company
LD1000045 Stauffer Chemical
LD1000008 UOP

15. LAB PACKS

15.1 GENERAL

LD1000009 American Chemical Society
LD1000037 American Cyanamid Company
LD1000042 American Petroleum Institute
LD1000029 Browning Ferris Industries
LD1000059 Eastman Kodak Company

LD1000031	Hazardous Waste Treatment Council
LD1000046	Peter Ashbrook/University of Illinois
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.

15.2 TREATMENT STANDARDS

LD1000009	American Chemical Society
LD1000037	American Cyanamid Company
LD1000042	American Petroleum Institute
LD1000048	Dow Chemical Company
LD1000059	Eastman Kodak Company
LD1000031	Hazardous Waste Treatment Council
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000046	Peter Ashbrook/University of Illinois
LD1000020	Synthetic Organic Chemical Manufacturers Association, Inc.
LD1000028	United States Department of Energy

15.3 RECORD-KEEPING

LD1000029	Browning Ferris Industries
LD1000031	Hazardous Waste Treatment Council
LD10L0005	Ross Environmental Services, Inc.

16. RELATIONSHIP TO PCB REQUIREMENTS

LD1000025 Utility Solid Waste Activities Group et al.

17. RELATIONSHIP TO SPECIAL WASTES

LD1000018 Idaho Mining Association

18. CONTAMINATED EQUIPMENT AND DEBRIS

LD1000012 BP America, Inc.
LD1000048 Dow Chemical Company
LD1000051 Halogenated Solvents Industry Alliance
LD1000031 Hazardous Waste Treatment Council
LD1000062 Reilly Industries, Inc.
LD1000036 Vulcan Chemicals

19. CONTAMINATED SOIL AND DEBRIS

LD1000033 American Iron and Steel Institute
LD1000059 Eastman Kodak Company
LD1000062 Reilly Industries, Inc.
LD1000020 Synthetic Organic Chemical Manufacturers Association, Inc.

20. UNDERGROUND INJECTION CONTROL

20.1 SETTING EFFECTIVE DATES PRIOR TO MAY 8, 1990

LD1000032	Ad Hoc Acrylonitrile Producers UIC Group
LD1000012	BP America, Inc.
LD1000027	Chemical Manufacturers Association UIC Task Group
LD1000026	Sterling Chemicals

20.2 CAPACITY VARIANCE "ANCHOR" DATES

LD1000032	Ad Hoc Acrylonitrile Producers UIC Group
LD1000037	American Cyanamid Company
LD1000027	Chemical Manufacturers Association UIC Task Group
LD1000034	Chemical Manufacturers Association
LD1000019	Monsanto Company
LD1000026	Sterling Chemicals

20.3 AGENCY FLEXIBILITY TO TERMINATE VARIANCES WHEN ADEQUATE ALTERNATIVE TREATMENT CAPACITY BECOMES AVAILABLE

LD1000032	Ad Hoc Acrylonitrile Producers UIC Group
LD1000027	Chemical Manufacturers Association UIC Task Group
LD1000034	Chemical Manufacturers Association

20.4 COMMENTS ON WASTE-SPECIFIC EFFECTIVE DATES

LD1000015 Hoechst Celanese Corporation

20.5 TREATMENT STANDARDS AS APPLICABLE TO UNDERGROUND INJECTION WASTES

LD1000032 Ad Hoc Acrylonitrile Producers UIC Group

LD1000027 Chemical Manufacturers Association UIC Task Group

20.6 INDUSTRY'S ABILITY TO DEVELOP TREATMENT CAPACITY

LD1000032 Ad Hoc Acrylonitrile Producers UIC Group

LD1000012 BP America, Inc.

LD1000027 Chemical Manufacturers Association UIC Task Group

LD1000034 Chemical Manufacturers Association

20.7 CAPACITY

LD1000027 Chemical Manufacturers Association UIC Task Group

LD1000034 Chemical Manufacturers Association

20.8 THE AVAILABILITY OF TRANSPORTATION

LD1000032	Ad Hoc Acrylonitrile Producers UIC Group
LD1000027	Chemical Manufacturers Association UIC Task Group
LD1000034	Chemical Manufacturers Association

22. OTHER ISSUES

LD10L0009	Assn. of State and Territorial Solid Waste Management Officials
LD1000027	Chemical Manufacturers Association UIC Task Group
LD1000034	Chemical Manufacturers Association
LD1000048	Dow Chemical Company
LD1000002	Five County Association of Governments
LD10L0001	Hazardous Waste Treatment Council
LD1000030	Institute of Chemical Waste Management, Institute of NSWMA
LD1000028	United States Department of Energy
LD1000041	Waste Management, Inc.

23.4 Issue Areas by Commenters (in alphabetical order)

LD1000032 Ad Hoc Acrylonitrile Producers UIC Group

20.1 Setting effective dates prior to May 8, 1990

20.2 Capacity variance "anchor" dates

20.3 Agency flexibility to terminate variances when adequate alternative treatment capacity becomes available

20.5 Treatment standards as applicable to underground injection wastes

20.6 Industry's ability to develop treatment capacity

20.8 The availability of transportation

LD1000009 American Chemical Society

15.1 Lab packs - General

15.2 Lab packs - Treatment standards

LD1000037 American Cyanamid Company

8.1 Leachate issues

15.1 Lab packs - General

15.2 Lab packs - Treatment standards

20.2 Capacity variance "anchor" dates

LD1000033 American Iron and Steel Institute

19. Contaminated soil and debris

LD1000042 American Petroleum Institute

2. Treatment standard development
8.1 Leachate issues
8.3 Application of "derived-from" rule
8.5 Application of "derived-from" rule to contaminated ground water
9. Retroactivity
10. Capacity
11. Testing
15.1 Lab packs - General
15.2 Lab packs - Treatment standards

LD10L0003 Amoco Corporation

6.1 No Land Disposal treatment standard - General comments
6.3 No land disposal based on recycling
11. Testing

LD10L0009 Assn. of State and Territorial Solid Waste Management Officials

6.3 No Land Disposal treatment standard based on recycling
8.4 Implications of treatment standards for "derived-from" wastes
12. Record-keeping
21. Other issues

LD1000012 BP America, Inc.

6.1 No Land Disposal treatment standard - General comments
6.3 No land disposal based on recycling
6.10 No land disposal standards for P and U wastes
10. Capacity
18. Contaminated equipment and debris
20.1 Setting effective dates prior to May 8, 1990

LD1000029 Browning Ferris Industries

11. Testing
15.1 Lab packs - General
15.3 Lab packs - Record-keeping

LD1000027 Chemical Manufacturers Association UIC Task Group

20.1 Setting effective dates prior to May 8, 1990

20.2 Capacity variance "anchor" dates

20.3 Agency flexibility to terminate variances when adequate alternative treatment capacity becomes available

20.5 Treatment standards as applicable to underground injection wastes

20.6 Industry's ability to develop treatment capacity

20.7 Capacity

LD1000034 Chemical Manufacturers Association

2. Treatment standard development

4. Promulgating standards for Third Third wastes in Second Third

5.1 Soil and debris capacity

6.1 No Land Disposal treatment standard - General comments

6.2 The No Land Disposal treatment standard is unlawful

6.3 No Land Disposal based on recycling

6.5 No Land Disposal based on no ash

6.7 No Land Disposal treatment standard - "Derived-from"/mixture rules

6.9 Difficulties with disposal stemming from No Land Disposal standard

7. Management of "soft hammer" wastes

8.1 Leachate issues

8.2 Separate treatment standards and schedule for "derived-from" wastes

11. Testing

12. Record-keeping

14. Requests for extension of comment period

20.2 Capacity variance "anchor" dates

20.3 Agency flexibility to terminate variances when adequate alternative treatment capacity becomes available

20.6 Industry's ability to develop treatment capacity

20.7 Capacity

20.8 The availability of transportation

LD1000039 Chemical Manufacturers Association

4. Promulgating standards for Third Third wastes in Second Third

5.1 Soil and debris capacity

LD1000048 Dow Chemical Company

3. Treatment standards expressed as specified technologies versus concentrations in the treated waste

5.2 Treatability variances

6.1 No Land Disposal treatment standard - General comments

6.3 No Land Disposal based on recycling

6.6 No Land Disposal based on no generation

6.7 No Land Disposal treatment standard - "Derived-from"/mixture rules

6.10 No Land Disposal standards for P and U wastes

7. Management of "soft hammer" wastes

8.1 Leachate issues

8.2 Separate treatment standards and schedule for "derived-from" wastes

8.3 Application of the "derived-from" rule

8.4 Implications of treatment standards for "derived-from" wastes

9. Retroactivity

10. Capacity

11. Testing

15.2 Lab packs - Treatment standards

18. Contaminated equipment and debris

21. Other issues

LD1000059 Eastman Kodak Company

5.1 Soil and debris capacity
8.1 Leachate issues
8.2 Separate treatment standards and schedule for "derived-from" wastes
15.1 Lab packs - General
15.2 Lab packs - Treatment standards
19. Contaminated soil and debris

LD1000004 Exxon Chemical Americas

4. Promulgating standards for Third Third wastes in Second Third

LD1000002 Five County Association of Governments

21. Other issues

LD1000058 Ford Motor Company

5.2 Treatability variances

LD1000044 GSX Chemical Services, Inc.

3. Treatment standards expressed as specified technologies versus concentrations in the treated waste

5.1 Soil and debris capacity

6.1 No Land Disposal treatment standard - General comments

LD1000051 Halogenated Solvents Industry Alliance

18. Contaminated equipment and debris

LD1000031 Hazardous Waste Treatment Council

6.1 No Land Disposal treatment standard - General Comments

6.2 The No Land Disposal treatment standard is unlawful

6.3 No Land Disposal based on recycling

6.4 Sham recycling

6.5 No Land Disposal based on no ash

6.6 No Land Disposal based on no generation

6.7 No Land Disposal treatment standard - "derived-from"/mixture rules

6.8 Treatability variance petitions

6.10 No Land Disposal standards for P and U wastes

7. Management of "soft hammer" wastes

11. Testing

15.1 Lab packs - General

15.2 Lab packs - Treatment standards

15.3 Lab packs - Record-keeping

18. Contaminated equipment and debris

LD10L0001 Hazardous Waste Treatment Council

21. Other issues

LD1000015 Hoechst Celanese Corporation

20.4 Comments on waste-specific effective dates

LD1000018 Idaho Mining Association

17. Relationship to special wastes

LD1000030 Institute of Chemical Waste Management, Institute of NSWMA

6.1 No Land Disposal treatment standard - General Comments

6.7 No Land Disposal treatment standard - "derived-from"/mixture rules

7. Management of "soft hammer" wastes

15.2 Lab packs - Treatment Standards

21. Other issues

LD1000060 Mobay Corporation, A Bayer USA Inc. Company

6.6 No Land Disposal based on no generation
8.4 Implications of treatment standards for "derived-from" wastes

LD1000019 Monsanto Company

4. Promulgating standards for Third Third wastes in Second Third
6.1 No Land Disposal treatment standard - General comments
6.3 No Land Disposal based on recycling
6.5 No Land Disposal based on no ash
6.7 No Land Disposal treatment standard - "derived-from"/mixture rules
14. Requests for extension of comment period
20.2 Capacity variance "anchor" dates

LD1000061 Olin Chemicals Corporation

5.1 Soil and debris capacity
6.1 No Land Disposal treatment standard - General comments
6.6 No Land Disposal based on no generation
8.2 Separate treatment standards and schedule for "derived-from" wastes

8.3 Application of the "derived-from" rule

8.4 Implications of treatment standards for "derived-from" wastes

11. Testing

LD1000046 Peter Ashbrook/University of Illinois

15.1 Lab packs - General

15.2 Lab packs - Treatment standards

LD1000062 Reilly Industries, Inc.

5.1 Soil and debris capacity

18. Contaminated equipment and debris

19. Contaminated soil and debris

LD10L0005 Ross Environmental Services, Inc.

2. Treatment standard development

6.1 No Land Disposal treatment standard - General comments

6.3 No Land Disposal based on recycling

6.5 No land Disposal based on no ash

6.6 No Land Disposal based on no generation

6.7 No Land Disposal treatment standard - Derived-from/mixture rules

6.8 Treatability variance petitions

8.2 Separate treatment standards and schedule for "derived-from" wastes
10. Capacity
11. Testing
15.3 Lab packs - Record-keeping

LD1000016 RSR Corporation

2. Treatment standard development

LD1000045 Stauffer Chemical Company

14 Requests for extension of comment period

LD1000026 Sterling Chemicals

4. Promulgating standards for Third Third wastes in Second Third
6.1 No Land Disposal treatment standard - General Comments
6.7 No Land Disposal treatment standard - "derived-from"/mixture rules
20.1 Setting effective dates prior to May 8, 1990
20.2 Capacity variance "anchor" dates

LD1000020 Synthetic Organic Chemical Manufacturers Association, Inc.

5.1 Soil and debris capacity
6.1 No Land Disposal treatment standard - General comments
6.2 The No Land Disposal treatment standard is unlawful
6.7 No Land Disposal treatment standard - "derived-from"/mixture rules
6.9 Difficulties with disposal stemming from no land disposal standard
8.1 Leachate issues
15.1 Lab packs - General
15.2 Lab packs - Treatment standards
19. Contaminated soil and debris

LD1000028 United States Department of Energy

7. Management of soft hammer wastes
8.2 Separate treatment standards and schedule for "derived-from" wastes
15.2 Lab packs - Treatment standards
21. Other issues

LD1000008 UOP

14. Requests for extension of comment period

LD1000025 Utility Solid Waste Activities Group et al.

16. Relationship to PCB requirements

LD1000036 Vulcan Chemicals

18. Contaminated equipment and debris

LD1000041 Waste Management, Inc.

8.1 Leachate issues
8.2 Separate treatment standards and schedule for "derived-from" wastes
8.4 Implications of treatment standards for "derived-from" wastes
13. Storage issues
21. Other issues